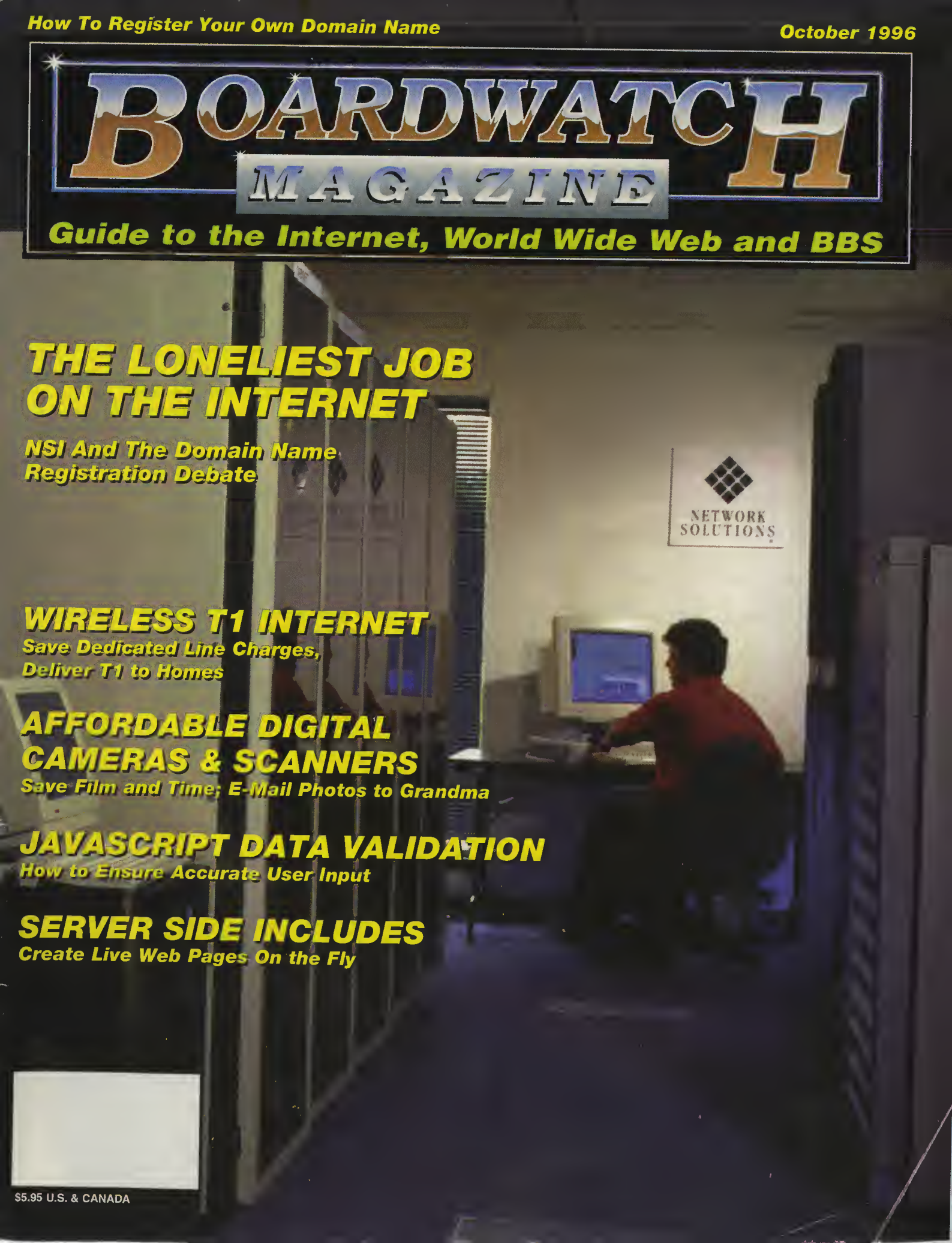
How To Register Your Own Domain Name

October 1996

BOARDWATCH MAGAZINE

Guide to the Internet, World Wide Web and BBS



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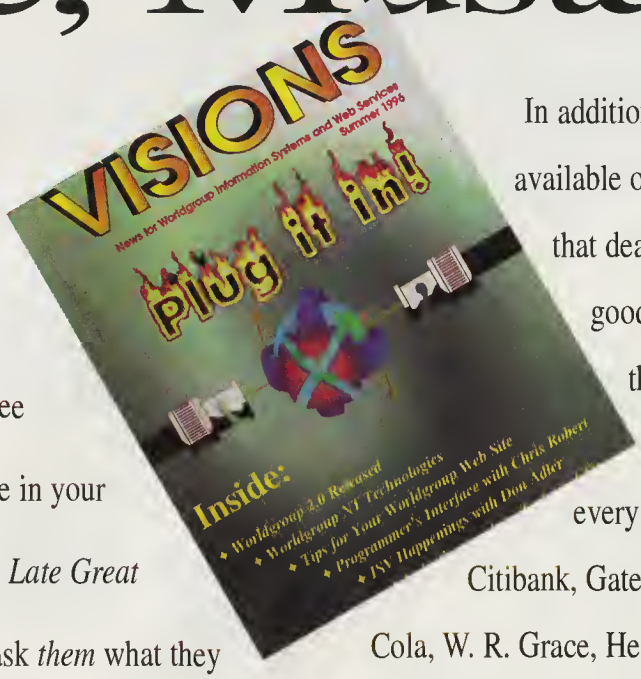

Interestingly, two of the three companies you call to trade in your Mustang stuff attended the *Late Great California Roundup*, so you can ask *them* what they think of Wildcat! Of course, you can email us at glue@gcomm.com and we'll be delighted to send you the latest issue of *Visions*, our magazine of news for Worldgroup information systems and Web services. Free. In it, you can see *hundreds* of solid, working, industrial-strength, online applications. All available today, and all available through the same three Ambassador Dealers shown below.

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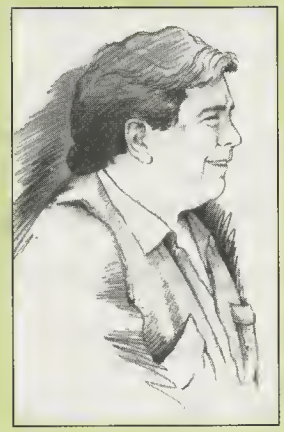

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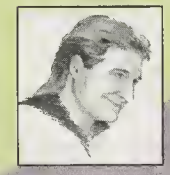

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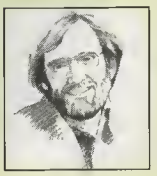

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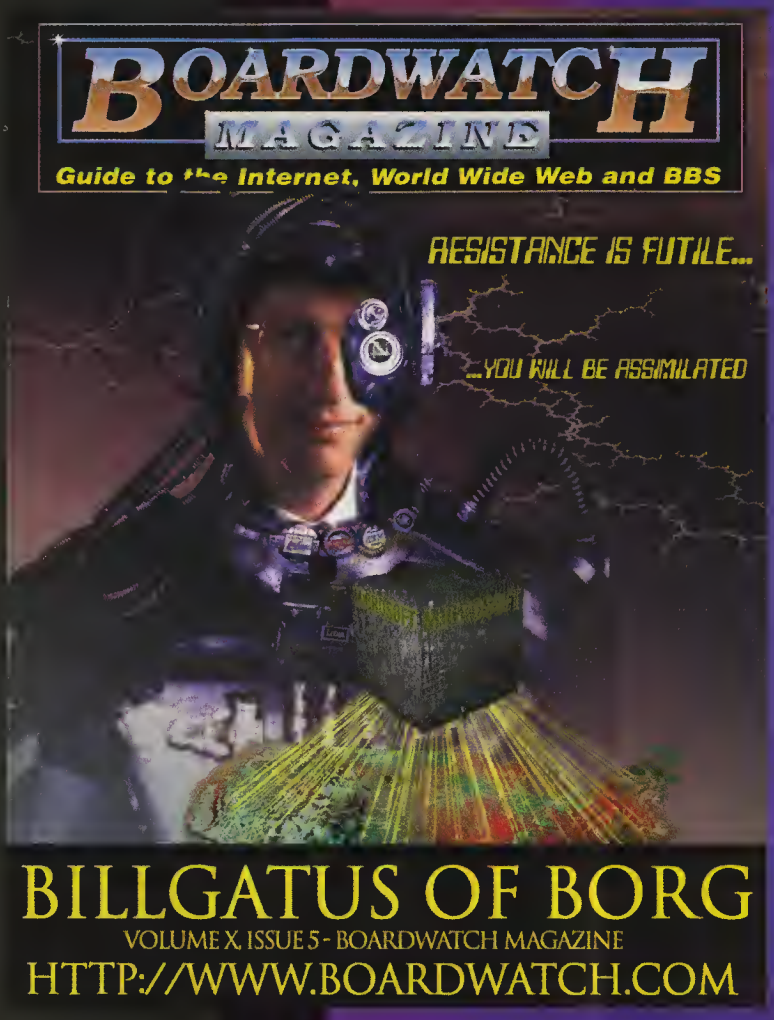

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DVORAK ONLINE by John C. Dvorak

THE FALSE GOAL OF TOTAL INTERACTIVITY

If you haven't noticed, the great god of interactivity seems to creep into any small space where a computer lurks. There is a large contingent of people who have this never-ending notion that if something can be interactive, then it should be interactive. These people mystify me because not everything has to be interactive. And what is a little interactive doesn't necessarily have to be any more interactive than it is.

This was brought to light recently when I spoke to a group of publishers. Someone said, "These guys don't get it. They don't understand the web is about interactivity. They think it's just about content."

Huh?

It *is* about content. It was *invented* for content. If I want to find out more about TWA 800 I'd love to just look it up. The interactivity is narrow. "What do you want to look up?" "TWA 800," no more no less. AltaVista, to me, is as interactive as the web needs to be. When I want to find a coffee roaster selling Jamaican Blue Mountain I want it to be quick and easy. I don't want to chat about it in a chat room. I don't want my personality analyzed so the computer can outguess me the next time I come on the web. I don't want to subscribe to a newsletter. I just want the name.

This issue of interactivity comes up because some people think interactivity is a be-all and end-all. They think that you should interact with the TV set, for example. The set-top box fiasco came about because one of these boneheads failed to notice that back in the 1960's test after test of interactive TV flopped. People want to *watch* TV, not interact with it.

This is not to say that interactivity doesn't play a role in the world of entertainment. My son thinks that quality time is best spent playing him in endless games of Duke Nukem over the modem. The Total Entertainment Network (TEN), a system specifically established for online interactive gaming, will be a huge success later this year. You can see it coming. BBS people have long noticed that interactive online games are a future trend. But this doesn't mean that absolutely everything has to be this way. Just because you like the color red doesn't mean that you paint everything red.

For some, the interactive craze means chatting too. I can't tell you how many webmasters are worried sick because they don't have chat capability. Does every site have to have a chat room? Who needs it? AOL and Compuserve make a ton of money off of people aimlessly chatting all day long racking up the bill. But should everyone do this? I hate to be the one to break the bad news, but a lot of people find online chatting rather dull. The bandwidth for such communication is about as low as you can get. Now, don't get me wrong, chatting can be entertaining. As can the Duke matches. But so can simple browsing — going from site to site and discovering the odd stuff on the web. I've found informational sites that are incredibly dull looking. No graphics. No wallpaper. Just text. Terrible looking sites. But the content was valuable. I think the mania towards ultra-jazzy sites that do everything — video, interactivity, chatting, audio feeds, etc., etc. is a bit ponderous and sometimes stupid. What's the point? It's the content, stupid!

DUKE NUKEM RANT

While on the subject of Duke Nukem, I think it's time that someone said something about the gratuitous cartoon sex in the game which makes it irresponsible. Obviously the dweebs who programmed this elaborate game have no kids — or taste, for that matter. This game, despite what the box says, is going to be played by kids and they end up seeing a bunch of strippers and tied up women hanging naked upside down in the water. Although these images are hardly photo-realistic, they are not healthy. AND they have absolutely nothing to do with the game. They were obviously thrown in to titillate a couple of the repressed coders. I suppose it could be argued that the "babes" got the attention of the press and the gamers and it was a publicity stunt. It could have been done better. And, anyway, the notion that this shoot-em-up is an adult game is total crap. This is a game best played by kids. There is not one adult theme in this game. It's a combo puzzle twitch game that kids love and they are all playing it. Thank goodness the individuals who are designing shareware and freeware new levels designed for modem play are leaving out all the dancers and tied-up babes because it's a waste of programming energy. The Duke Nukem folk and the other game makers should place themselves in the following scenario and imagine how they'd feel: in front of a Senate Committee being shown the most sick sexist scenes and being berated on TV by the U. S. Senate with their Mom in the audience. This is where this is headed.

Years ago I wrote about the irresponsibility of game designers in PC/Computing and got a few accolades but no action. Now this! I do not get the point of it all. You take a genuinely outstanding game and add gratuitous nudity to get an X-rating. What's the point? Are they selling more copies because of this? Is it a marketing ploy. "Oh, boy! It's X-rated it must be a great game!" Who thinks this way? Nobody, that's who. The game is a success in spite of this dumb strategy.◆

In addition to his weekly syndicated radio call-in show, "Software/Hardtalk," syndicated newspaper columns, magazine writing for ***MacUser***, ***PC Computing***, ***DEC Professional***, ***Information Technology***, and his featured "*Inside Track*" column in ***PC Magazine***, Dvorak is the author of several best-selling books, including ***Dvorak's Inside Track to DOS & PC Performance***, ***Dvorak's Guide to PC Telecommunications***, and ***Dvorak's Inside Track to the Mac***. *John can be reached at* ***mailto: dvorak@aol.com***

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EDITOR'S NOTES

DANCING WITH ELEPHANTS IN THE YEAR OF MOMMIE'S COMPUTER

ONE ISPCON was held August 7-10, 1996 in San Francisco. Something less than 2000 (1940?) Internet Service Providers, hardware vendors, and related interested parties gathered in the city for a meeting that would certainly qualify as the largest gathering of ISPs ever held. And a good time was had by all.

Despite hosting some 120 educational sessions, as usual we learned more than we taught - one of the direct benefits to me personally of hosting such an event. NSI essentially rolled out their new domain name policy at the event and were very gracious both in coming in force as speakers and in fielding the inevitable questions and complaints surrounding the domain controversy. There were also some "alternate" domain solutions and in this issue, David Hakala will try to sort out the highs and lows, and probably more importantly the resources where you can go participate in the autumn '96 sandbox/mud-wrestling issue of the Internet.

We learned that contrary to a view of a decreasing number of Internet Service Providers, we are actually about to embark on a period of absolutely explosive growth. Phil Lawlor of AGIS, a national backbone operator who actively cultivates the small and medium-sized ISP as a customer, predicts 10,000 Internet Service Providers worldwide within a year.

And he may just be onto something. Brazil essentially deregulated communications in August and a number of attendees from Brazil fully expect the 220 current Brazilian service operators to grow to over a thousand in a year. Australia is still six months from de-regulating, but it is happening and growth there could be particularly explosive. We are wrapping up our Fall issue of the Boardwatch Directory of Internet Service Providers, and I'm assured it will contain something over 3000 service providers - more than doubling in size since the Spring issue published in March. Predict what you will, currently entrepreneurs are getting into the ISP business in groups of nine per hour it would appear.

Lawlor, incidentally, has developed a remarkable vision of what the Internet needs to be functional. I don't know that it's the correct vision. But what is most engaging is that he's going ahead and doing it anyway. This is what I love about the entrepreneurial end of this - a kind of lead, follow, or get the hell out of the way approach to global connectivity. Lawlor is essentially deploying within AGIS a three tiered level of service paradigm - replacing the current "best efforts" connectivity with three. This model will offer a low grade connectivity for applications such as electronic mail, USENET news, ftp, etc. He winces a bit when I refer to this as "worst efforts" connectivity but it is the channel for various low priority store-and-forward applications. Level two would correspond roughly to what we have now. Level one would be a premium or "reserved" channel for high-end web servers, audio and video applications, etc. It corresponds roughly to Cisco's RSVP initiative, but it wasn't clear they were the same thing. It comprises the "good" channel that will save us all.

Two interesting things about this. First, the pricing is intriguing with current service and "worst efforts" store and forward service being roughly 0.75 and perhaps as low as 0.25 current prices. The Good Channel would be 2 to 3 times as expensive as current service. Secondly, an ISP would be able to order a custom pipe comprised of 42% Good Channel, 29% current channel, and 29% store/foreward channel - or whatever mix they think they can resell and do well thereby. They would even be able to change the mix.

As to consolidation, it is happening - just not to ISPs per se. More commonly we are seeing it among largish equipment manufacturers. Ascend has acquired Netstar and gained access to their top end Gigarouters. Cisco acquired Stratacom and is now a power in ATM switching as well. Metropolitan Fiber Systems acquired UUNET and now LDDS WorldCom is acquiring Metropolitan Fiber Systems. I heard today that Lucent Technologies, the equipment manufacturing spinoff of AT&T, is now talking about acquiring Bay Networks. Recall that Bay Networks was the result of a merger of Wellfleet and Synoptics. It would appear that most of the mergers and acquisitions seem to be among telephone companies and largish hardware/LAN technology companies.

I recently spoke with Siemens Stromberg-Carlson (**www.internet.siemens.com**). This 61 Billion-dollar Munich-based international mega-corporation has started an independent business unit titled Siemens Internet Solutions - their market is the Internet Service Provider business. They are moving in with a totally turnkey integrated package made

up of DEC Alpha servers, US Robotics and Ascend dialup units, Cisco routers and whatever else might be laying around, including some interesting technologies from a small 50-man company titled Persimmon (**www.persimmon.com**), and using the truly global sales and service infrastructure of Siemens to setup ISPs everywhere from Brazil and Saudi Arabia to Guan Dong province in China. If you think Vocaltec doesn't have the muscle to join the voice over the Internet technology with the public switched telephone network, Siemens does. And they already have plans to do it - only with video as well. And they intend to arm existing ISPs, rural telephone companies, cable companies, and anyone else who wants to play with the entire package necessary to do it. According to Van Cullen, head of the new business unit, he too sees an explosive market in the number of new ISPs.

And while DEC follows Microsoft around with visions of sugar plums that MIGHT pull them out of total bankruptcy, probably in the hopes that big Bill will somehow buy them outright, IBM of all people is returning in force to the Internet. They have a group termed alphaWorks (**www.alphaworks.ibm.com**) that is trying to accelerate the movement of technologies out of the research labs onto the net. This includes a new audio/video streaming technology, PanoramIX - a tres cool 360-degree bubble picture development system, and ShockAbsorber, a load balancer that lets you build a web farm of servers and direct traffic to it in load-balanced fashion. John Patrick is the chief cheerleader of all this and he seems to believe IBM should be one of the main players - in spite of their falling rather flat on their tusks at the Atlanta Olympics.

So while the world may be diverted by the dance of Microsoft and Netscape over who gets to give away the most free browsers, a number of other elephants are learning the Lambada and trying to dance as well. It doesn't seem that the ISPs are the ones getting stepped on - rather they seem to be the object of some romantic intentions - everyone's current favorite market. And the elephants are stepping on each other in a bizarre frenzy to acquire each other's technology and somehow become relevant to a worldwide explosion of Internet Service Providers.

Meanwhile, few can pass the mommy test I described in the August issue. I've been inundated by e-mail from ISPs who insist I don't know what I'm talking about and all you have to do is take along a copy of (insert favorite cool software thing here) on disk and it can be done in a heartbeat. This rather misses the point. Mom doesn't have (insert favorite cool software thing here) and neither do about 100 million other people that don't even know you need (insert favorite cool software thing here). And if you go through the process without your (insert favorite cool software thing here), even knowing all you do know, plan on spending the day with it. Our technical director, Gary Funk, and our circulation director Brian Noto failed the test - and that when they brought Brian's mom's computer in here to the office and had all their favorite cool software thingies - inserted right here but it still took two days before all the various gotchas were gotten and the thingies were all doing their thing.

The truth is that all the technically savvy people who wanted to be on the Internet are on. And the tsunami wave of new blood previously mentioned are not so savvy, and take some hand holding to get on. Even some of the small ISPs are running for higher ground (we just sell to businesses) at precisely the time the larger companies that are supposed to stomp them out of existence are considering ceding the beach to them themselves. It is starting to dawn on many that money doesn't grow on beaches, it grows on TREES and we better find some high up pretty quickly or mommie might be calling US.

My point - almost everyone is now starting to realize that with the current level of technology, maybe we might be better off just leaving it to those little ISPs to hook up mom's computer. If we sold THEM stuff, maybe we could get some of the money anyway. A 61 billion dollar international corporation with 373,000 employees in 180 countries just might not be enough to get mom actually connected. But they could get the ISPs connected in pretty high fashion. Might work. We'll see.

Finally, the quality of the Internet is a bit relative. While we debate whether ten customers per modem or twenty are appropriate, I also learned that in Brazil, 400 customers per modem is considered pretty good service.

While my hero, Bob Metcalfe, counts Gigalapses, I'm rather counting the more mundane kilowaits-per-hour. But at ONE ISPCON, his "Imminent Collapse of the Internet" speech was punctuated by a 19-hour AOL outage on the first day of the conference, and a power outage from Oregon to the Mexico border on the last day of the conference. I just may lose this bet after all, and at this point, if I win it won't be one of those "clean" wins I take any joy in. I also got to watch one of the most clueless ISP service reps I've ever seen (HLC Internet) mindlessly explain how ethernet operated to Metcalfe himself, the guy who invented it. Having delivered the lecture of his life, the guy sauntered away still clueless - since everyone there was too speechless to provide him one. And predictably enough, we had to get somebody else to hook up service so we would HAVE Internet at our own conference.

Oh, well. Some days are better than others. My sincere thanks to all who participated in ONE ISPCON.

Jack Rickard
Editor Rotundus

Letters to the Editor

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LETTERS TO THE EDITOR

Address correspondence to Letters to the Editor, *Boardwatch Magazine*, 8500 West Bowles Ave., Suite 210, Littleton, CO 80123; by fax to (303)933-2939 or by e-mail to `letters@boardwatch.com`

WAY TO GO, JACK

Been a longtime reader, anonymously enjoying your rants and occasional raves. But mostly, I've been a fan of your (usually) clear prose and ability to crystalize highly technical info into entertaining nuggets of knowledge that even a bonehead like me can understand. This is a talent not much in abundance in the more "popular" media.

So you can imagine my surprise while reading a clear, concise, and reasonably accurate piece about the Internet that was NOT in Boardwatch magazine. David Plotz's "Who Pays for the Internet" in a recent edition of Slate (Micheal Kinsley's — and Bill Gate's — most recent electronic news offering [www.slate.com]), though not ground-breaking, was certainly readable and informative.

You can probably imagine my lack of surprise when arriving at the end of the shortish piece to read this footnote:

There is nothing rarer on the Internet than a clear explanation of the Internet, so it's worth reading this long article **(`www.boardwatch.com/isp/archit.htm`)** by Jack Rickard of ***Boardwatch***.

It's good to see praise go where it is deserved.

Dave Ross
Lucent Technologies
`aldr2@micro.lucent.com`
Town Square BBS
Bethlehem, PA

Thank you David. I agree, Mr. Plotz's "Who Pays for the Internet" was quite good. And it addresses one of the many popular mysteries and myths surrounding what the Internet is. The Internet is, at the same time, both more and less efficient at providing shared access to a finite resource and thereby a very odd economic duck. Rather than using switches to "set up a connection" between two points for a fixed length of time, it uses connections to trunk packets of data. Your Internet session produces more packets when you are actually transferring data, and essentially none when you are simply reading things off the screen. The net effect is that we are all talking in the spaces and pauses between each others words. This is almost ideally efficient for data access.

At the same time, the Internet Protocol is much akin to everyone throwing their hats in the air and hoping they all land on the right heads afterwards. And at any given moment when you want and need speed, any particular point on the network is just not going to get what it wants as it would with a clear channel. You're rather part of the traffic, and much like automobiles, you make about as much headway as the traffic flow. In this way, it appears inefficient.

The reason a correct understanding of all this is important goes to how we pay for it. The traditional metered "time online" favored by telcos and large commercial online services is comically inappropriate. It's like measuring the speed of automobiles in telephone-poles-per-hour.

The more applicable, but still metered penny-per-pixel model is slightly more so, but goes against the grain of what customers want - predictability. We don't really know what true data demands software makes for any given benefit other than a vague notion that e-mail doesn't take much, and video takes a lot. But there is an inherent fear in our unknowingly racking up huge charges without meaning to. And many users' early experiences with the then expensive commercial online services hourly rates would tend to support that fear. In the early 1980's, it was not unusual for a newbie online to explode with enthusiasm, right up until the point where they got the first $350 monthly bill from CompuServe. We actually got a call several years ago from a very irate father who wanted Boardwatch to pay his $200 long distance telephone bill - the result of a son who dialed through our published BBS list of the month - ostensibly without realizing the economic consequences of indiscriminate long distance dialing by modem. We demurred. But somewhere out there still wanders a gentleman still convinced we led his boy to sin with a modem.

The model that has emerged so far is that we buy connections to the Internet much as you buy water or sewer connections - by pipe diameter. Currently, a 28..8 kbps wide pipe is $20 monthly. A 128 kbps wide ISDN pipe is typically $100 monthly. A 1.544 Mbps T1 pipe is $1200 monthly. Note that this pricing is almost comically rational despite often different technologies required to build the different diameter pipes.

The problem there is in expectations. The NAME of the wee pipe is 28.8 kbps. But you never GET 28.8 kbps as you would dialing a bulletin board directly and NOT using packets. You bought a pipe named 28.8 kbps. Similarly, a pipe named 1.544 Mbps never actually delivers 1.544 Mbps - even briefly. And it never can. You participate in a packet cloud, and some days are cloudier than others. But we do know that a T1 pipe is faster than a 28.8 kbps pipe in relative terms.

The article of ours that Mr. Plotz so graciously referred was of course from our Summer 1996 Boardwatch Directory of Internet Service Providers. I published that book with a tremendous amount of fear and misgiving. Lacking visible consensus on all horizons, we rather brazenly wove a tale of what the Internet looked like to me, how it appeared to have developed, and even some theories on how it all hung together that relied more on point-of-view than on empirically demonstrable technical operation. Even the concept of mapping a network that really has little in the way of real-world geographic component to the more familiar geographic maps of land masses rising out of the oceans is a wee bit absurd. Well, beyond demonstrating that routers don't operate very well underwater that is...

But the reception to the book has been quite surprising. Rather than becoming ground zero for flames from all over the Internet, and increasing the tone of my already characteristic bronze flametan to a crispy black, it seems almost everyone has accepted it as the definitive "map" of the Internet on paper. I think this is more from a general consensus that it is better than what was previously available - approximately nothing - than true applause. But at this point we are almost in a new publishing genre - filling bulk orders for hundreds or even thousands of copies from the very companies that are key builders and architects of the network. They appear to be distributing them internally to get all the new-hires up to speed on what the mission is. And much to my relief, rather than vilify me as the new Satan of Internet, they are all providing much better and more detailed information for our next effort.

This rather puts the pressure on our Fall issue to improve the mark - probably running a week or ten days late as a result.

In any event, thanks for pointing out the reference.

Jack Rickard

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HAMPTONS ONLINE

Hello.

I'm not sure if you have ever feature any articles on Hamptons Online, but I know Computer Shopper, and some local papers have. In case you have, it may be time to take a visit back. This place has been grossly ignored, and has become outdated. The sysop (Robert Florio) claims that "We are experiencing tremendous growth on our Internet side", which is his excuse, for IGNORING all of his bbs users for the past 5-6 months. Nothing is ever updated, for example, local movie listings, just about every local feature on the bbs (oddly enough, it was because of all of the local features, that Hamptons Online was given such a positive review in Computer Shopper) is outdated, or non-functional. The file area does not work at all, Newsgroups are offline, games are malfunctioning, lines are freezing, etc. The worst part of all, is the excessive EMPTY promises from the sysop, In JANUARY he claimed to be adding three more lines to the bbs (there are currently 6 dial-up line, and 8 telnet. I have no idea why he did it that way, but when you look who is on, it shows 10 lines, so that people who do not know the bbs may think there are 10 lines) which he never did. He has lied so many times, I cannot even begin to tell you about all of them, and take it from me, I know. I am a long time user, given the title of "Online Host". He had given that title to three of us, and was going to have us help users, and watch over chat, and give us the ability to ban obnoxious users from chat (which he never did). He advertises things on the bbs that do not work/exist anymore. His "subscription" screen has at least 3 items on it that are not functional, yet people still believe they are getting it. I am not alone in this feeling. To see what I mean, telnet to "**hamptons.com**", or call **(516) 283-1114** and see for yourself, read a public forum, for example "Controversy Cafe" (which actually was a surprise to me when it showed up. It may have never been put on, had I not made the ansi menu for it) and see how the other usersview the service provided, or lack of. Something has to be done, all he gets is positive publicity, because he deletes many of the complaints from public forums, and the local papers don't even bother to sign on, or talk to the users, they just view him as a great pioneer in the online society. I would like to see him get the negative publicity he has earned, please help us here.

My name is Mike Venzke, and my email address is "**mike.venzke@hamptons.com**". If this story interests you, and you wish to follow up on it (which I certainly hope you do, two other users that you may want to talk to are Jonathan Foster, and Evan Hoffman (The three of us make up the original online hosts. It justs shows you how much loyalty the sysop has earned from us.). Their email addresses are made up the same way mine is, "**first.last@hamptons.com**". Please do something about this, someone has to stop this guy, he is now even in the midst of creating a web page for the Town of Southampton (which gained him more positive publicity), yet no one knows the side of him that ignored all of the users who got him there in the first place. This guy gives BBS's a bad name, please do something, at least reply to this.

Thanks,

Mike
mike.venzke@hamptons.com

My, my but you are an unhappy little camper. And almost bereft of the concept of paragraphs as well. But in any event thank you for the excellent explanation of just how e-mail addresses work in the Hamptons.

Yes, I agree - something must be done. This man must be stopped. Let me see if I understand this correctly. The alleged miscreant, one Robert Florio, has had the temerity to begin offering Internet Services - I presume dialup access and some web hosting, to the users of his BBS. They all moved there - leaving you, Jonathan, and Evan as the sole users of a not very well maintained BBS. If he would reverse his position, close down all that Internet stuff, and come back and fix things, all would be as it was and you could again be "online hosts". But he won't because in his pursuit of filthy lucre he's off doing MORE Internet stuff for those willing to pay for it. Meanwhile, rather than giving this guy the just punishment he so richly deserves, the rest of the world and particularly the press has been fooled into thinking he's some kind of progressive pioneer?

Meanwhile, you, who have faithfully dialed into your free online host account all these years and really got him where he was today, haven't actually received your due as defender of the BBS faith. And a "true" online pio neer you are.

So why go down whining? YOU Mike are clearly the real driver behind this board. So pick up a cheap PC, a couple of 300 baud acoustic Anderson-Jacobsens, a copy of Renegade or WWIV, and go start your OWN BBS. One announcement, and I'm certain the thousands of unhappy users of this once proud, but now neglected derelict system will charge over to YOUR VERY OWN BBS and we can end all this Internet crap and get back to REAL online pioneering. And all will be right with the world.

Good luck Mike. And for that matter, good luck Robert. Some days are better than others, eh?

Jack Rickard

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Rural Services

I thank you for your article. I work with two relatively remote Alaskan Aleutian villages. Any suggestions as to how we could get economical services to these villages. They are within 30 minutes flight time(Cessna 206) from a local ISP provider but all their phone calls must travel through satellite and high charges. Anything you could send would be appreciated as these villages work to survive in a changing economy.

Thank you
Kevin Murphy
kcmurph@ptialaska.net

Mr. Murphy:

It's not just an apparent problem. It's a real one. Let's see - 30 minutes by Cessna - I'm guessing 65 miles. I would try to work something with some very directional commercial radio equipment between you and the ISP but it's a stretch, the equipment will be expensive, and there are some licensing issues. To recover the cost of the equipment, I fear you will have gone to a lot of effort to move the problem rather than fix it.

There are some very interesting, if embryonic, developments in satellite T-1 links much after the fashion of our article on the Canadians. But I wouldn't look for much that is readily available for another year.

I will publish your letter. I wouldn't want it widely known, but a large percentage of our readership are simply a lot smarter than I am at working these problems.

Jack Rickard

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Marlboro Man/Wildcat v5

Jack:

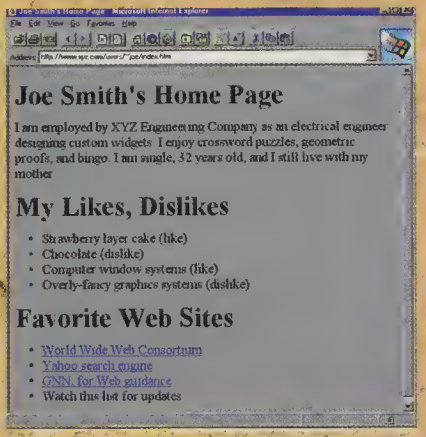
First, let me say that I enjoy your magazine and look forward to reading it every month.

I just got finished reading a comment one of your other readers (David Spellman) wrote about the review Mr. Thompson wrote on Wildcat v5. While Wildcat v5 does still have its problems (doesn't any new product?) some of the issues that Mr. Spellman brought up have been taken care of, such as the stability and the message conference issues.

What Mr. Spellman didn't state in his comments is if he was a member of their Auto Update Plan (or AUP) that lets a registered user download the latest version of Wildcat. If he is a member, then I apologies for the comments that follow. If he is not, them perhaps he ought to give Wildcat v5 another try for a month or two, subscribe to the AUP, and then write back to YOU with his comments then. He will find that most of the problems that he brought out ARE fixed or are being worked on as I write this. MSI is planning on providing the STMP and the NNTP Modules sometime in the near future. Which, by the way, (to my knowlege anyway) MSI plans to add those modules for FREE to all registered AUP subscribers because these modules are within the Internet Connectivity Package.

I also have to state that since I put Wildcat v5 on my machine that my users base and percentage of calls has shot up more than 98% because of its Internet E-Mail/HTTP/FTP/and Telnet features. It has also opened up a whole new area for my BBS and business as I can now offer unique and unusual features for my users that they have been asking for since my BBS first went online back in 1984.

This is your Web Server



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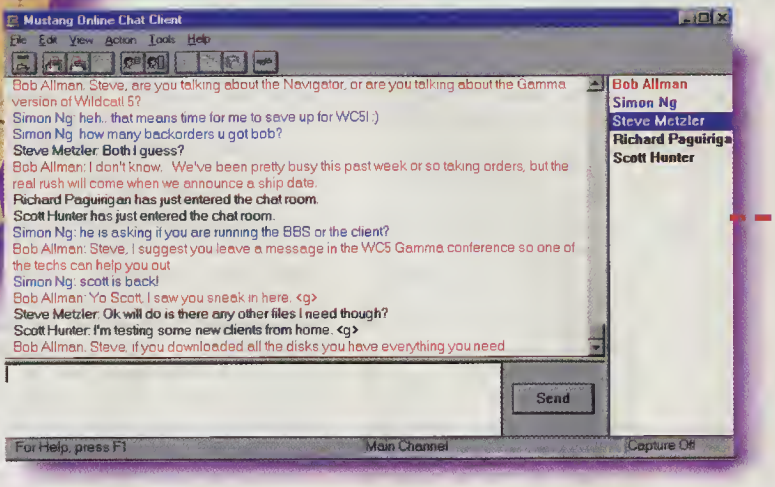

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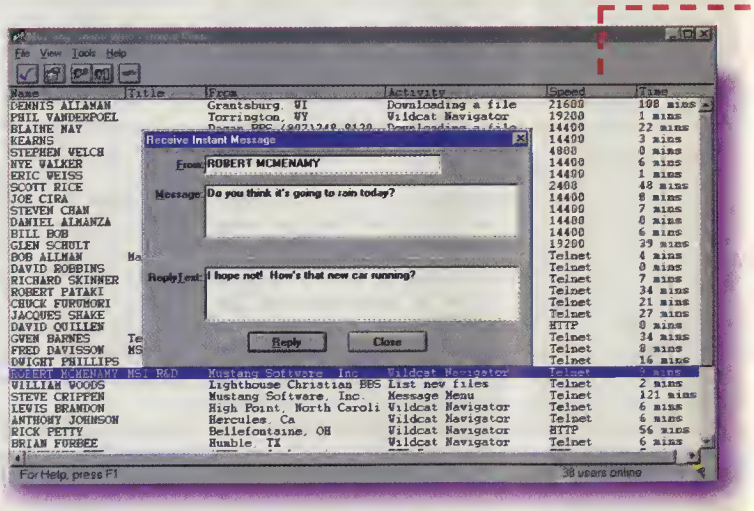

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Promote user interactivity.

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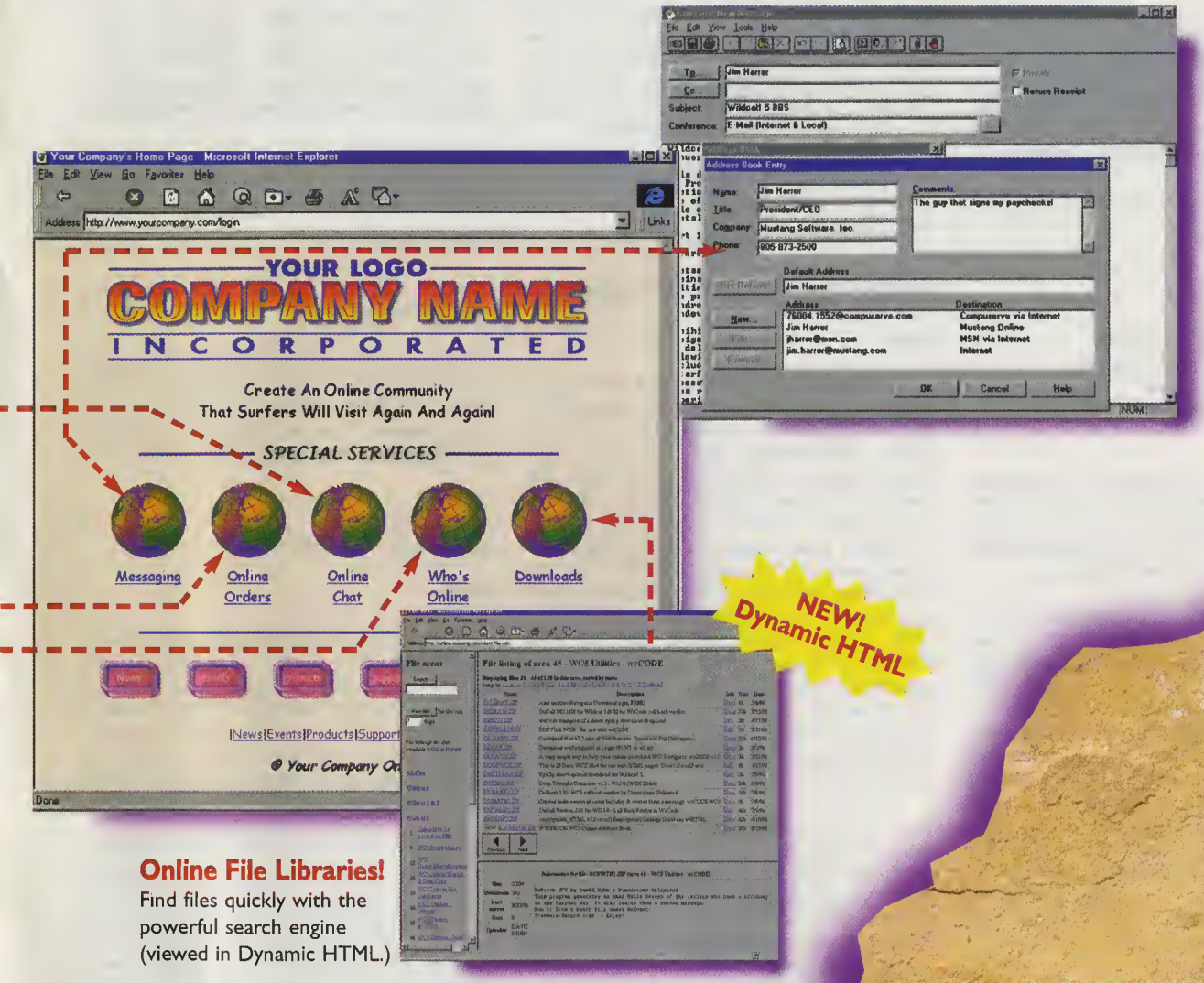
Shawn P. McCarthy,
Government Computer News, April 1, 1996

Web Server on Wildcat!



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If Mr. Spellman thinks that he can write a BETTER review then Mr. Thompson, then you ought to invite him to do so. Perhaps he would then find out that some of his comments were unjust and unfair.

Mr. Thompson's article was extremely fair and very informative. It couldn't have come at a better time as it gave me hope that the company I chose for my BBS package won't leave me "out in the cold" with a product that's unusable and/or outdated.

One last comment. In all my years of being a SYSOP, I have never dealt with a more unique and helpful company then MSI. I have never called their Tech Support number without getting an answer to a question or a problem that I was having at the time. I wish all of the other computer companies were like MSI.

Oh, one more thing. No, I am NOT an employee of MSI. :)

Best regards,

Danny Uff
Sysop, Connecting People BBS
Uff Computer Services Company
danny.uff@cp-bbs.com

Danny:

Reviewing software is kind of a dangerous thing to do. Did you ever notice you don't see any critical reviews of church services in any of the magazines like you do restaurants? Jim Thompson does it better than most.

But software is in the experience of those who use it. I tried to install Microsoft Internet Explorer yesterday on a machine with a 106 MB drive (I know, but we're playing THE MOMMY TEST around here a lot). I actually didn't even WANT Microsoft Internet Explorer 3.0. I wanted Microsoft Internet Mail and News. If you haven't tried this mail program, you must - it's quite good and of course free from **www.microsoft.com** *But it rather insists you already HAVE Microsoft Internet Explorer 3.0, one of about 700 little actions Microsoft has taken in a truly vicious attempt to get everyone to use this truly broken browser software.*

I was affronted that it required IE 3.0. But more so when I tried to install IE 3.0 on the machine. I got an error message that IE 3.0 must have 65 MB of free disk space to install. I was so astounded that I tried it twice more. It INSISTED it needed 65 MB of free disk space, and not finding it, it aborted the setup routine each time. I know absolutely it doesn't occupy 65 MB or hardly a tenth of that after it is installed. But that's what happened.

When I encounter software such as this, the emotional response is rage - kind of icy gut filling testosterone spilling rage that gets a bit ugly. Now I'm sure there is a simple explanation of why all this is necessary or why if I had only entered MYXYZPTLK in the Windows registry it would not have happened at all and so of course it is entirely operator error, but I'm rapidly losing tolerance. In this case, I didn't even want the program in the first place, I wanted the mail program. It's enough to make you fire a ball-point pen right into the old 24X37-inch poster of BillGatus of Borg (I've warmed to this poster concept - I now know what it's for and why you guys wanted it).

My point is, many packages, particularly aggressively designed client/server systems such as Mustang Software's, still do at this point require some learning curve and some work to deploy. But there are increasing numbers of us that are simply tired. Or perhaps we are spoiled. But I don't want to look up MXYZPTLK registry entries. I just want it to work. And if it doesn't, well - there'll be some more software to install along here in a minute. I'm sure Mr. Spellman's letter came out of a similar moment of frustration.

Yes, the AUP technique Mustang is using is cute.

Jack Rickard

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SUGGESTION FOR A NEW WEB SERVICE

Hello,

I'm now out shopping for a new ISP due to numerous malfunctions and equipment outages at my current provider. They have outgrown their Pentium based non-ECC, non-RAID systems. Methinks that this will become a common occurrence as the small ISPs become stressed with more signups than their computers can reliably handle. It is not a matter of amount of memory or speed of machine, but rather the fact that almost all pc (except HP vectra) style machines will fail with memory errors unless each stick of memory is stress tested in the ACTUAL machine in which it is used. Memory testers will invariably show the memory to be good so many knowledgable users are able to trade in their known bad sticks for another which MAY prove to be reliable.

It seems to be impossible to find out what type of equipment many of the ISPs are using or to determine their quality of service until after signing up and sampling for a while. So why not allow users to post their experiences with ISPs on the Boardwatch Web Site. For instance you might think that Sprint would have decent equipment, but today their main Web site www.sprint.com does not respond but www.sprintlink.net is ok.

ndc@icanect.net

NDC:

We'll take a look. The concept has a touch of merit.

But I don't know that it will solve the problem. I soundly disagree that it is anything so simple as memory quality and PCs. We're a little afraid of "rating" ISPs on subjective terms for a couple of reasons. The biggest reason is the fluidity of the field. As you point out, user experiences on ISPs tend to be a function of the number of users. We note a phenomenon we call "piling-on" that is occurring at all levels from the very largest national backbone operators to the very smallest ISPs. Essentially, ISP upgrades equipment and overall operation in a painful and expensive six-month program. They fire up the new stuff. Word gets out that they have the "good" Internet over there in approximately 12 minutes. Approximately 63 minutes later, they have signed up enough word-of-mouth converts that they don't work so well anymore. Let's embark on another six-month upgrade effort.

So too would go the half-life of the usefulness of any particular users' comments. They would hold true during the experience. They would probably still hold broadly true three days later when they post the comment. But a week after, it would probably be mostly fiction.

I wish there were a means to tell you where the "good" Internet is in meaningful terms. I haven't stumbled across one yet.

Jack Rickard

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LIGHTNING BOLT

What do you know about Lighting Bolt a bulk mailer program. I'd be interested in find out about bulk mailers in general, rules and regs. proper use ect. I love your magazine, I just wish I'd receive it closer to the 1st than the 15th.

Mark
Mark Engbretsen
ngbrtsn@local.net

Mark:

Lightning bolt is a program that you upload to a UNIX shell account at an ISP. It goes through newsgroups malignantly compiling a huge list of e-mail addresses. Then it takes a boilerplate text e-mail message of your authorship and mass e-mails or SPAMS the entire list of e-mail addresses. It takes all the work out of spamming.

I am fascinated by and greatly fearful of these programs. We intend to take a close look at them in future issues. They both accelerate and go to the heart of the issue of unwanted junk e-mail. I've studied this situation for several years and it is more complex than it first appears. I do know a couple of things:

While most online deplore SPAM, and some are even enraged at seeing the word, it is very rare to find even two individuals who can agree on what it is. One man's SPAM is another man's treasure.

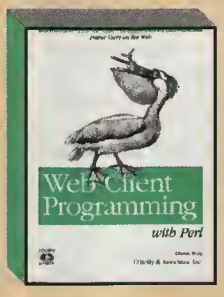
In selected instances, it works quite well to sell things. This gives it energy to continue to be a problem.

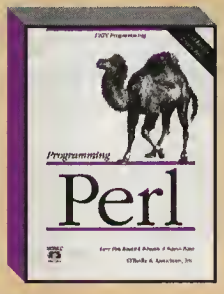
3. Without a clear agreement on what it is, it's going to be a little difficult to devise solutions.

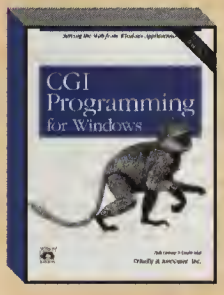
As to rules and regulations etc., there aren't any. I would find it surprising if any ISP in the country would knowingly allow Lightning Bolt to run on their machines for very long. But even detecting it's operation requires some

WEB MASTERY

FROM O'REILLY & ASSOCIATES, THE LEADERS IN WEB TECHNOLOGY







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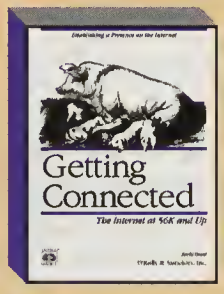

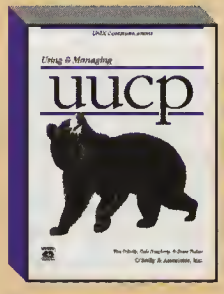

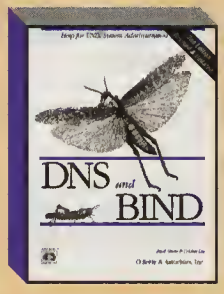

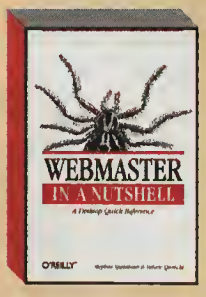

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effort. And the result is usually some form of shutting the barn door after the horse is gone. Dedicated SPAMMER's simply hop from one ISP to another. They don't even care if it's a long distance call. Once they have set up Lightning Bolt, they are not even dialing in. The program just sort of runs like a virus spewing forth mail without much supervision. I think this program will actually kill shell accounts. They simply won't be available soon. There are no laws, no regulations, and little hope of anything useful in the future that won't do as much harm as good.

I hate to paint a gloomy picture, but there it is. It's a bit of an arms race with the user of an individual e-mail box the innocent civilian victims. I rather tend to look at filter/technical solutions in end-user e-mail packages as the answer. But despite discussion of this for at least ten years, most e-mail packages are woefully deficient in this area and the ones that have it are bestial exercises in pedantic boolean operators that most users would find more difficult to use than to just delete the offending messages.

I would like to see an e-mail package where I could just highlight a message and click on the "no more of those" button. It would rather intelligently analyze both the sender's address, the subject, and the text and send all such future messages received to the SPAMCAN. Perhaps a slider control to allow me to be more stringent and literal or less stringent and literal. In other words, I could SPAMCAN all messages strictly from that e-mail address (quite literal) or any message on similar topics or text (less literal fuzzy logic).

The concept is that it be a bit flexible, and very easy to use.

In any event, I would not advocate using Lightning Bolt or other similar programs. But I am interested in watching how they develop.

Jack Rickard

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SEARCH ENGINES & GROWING INTERNET DYSFUNCTION

I wish to inform what I perceive to be a problem regarding the haphazard and indiscriminate syphoning of WEB information from WEB sites for DATABASE cataloging to attract investor, advertisers, and sponsors at the expense of private individuals like myself who have WEB sites.

These search engines are creating enormous databases of *our* information then making an income from sponsors and advertisers claiming "we have an enormous database... clientele base" at the expense of distorting my work, misrepresenting me, taking my work out of context, listing me without my consent.

Why must I learn a technique, or create a file, or seek out a specific URL, or fill out a Lycos exclusion form just to prevent them and others from haphazardly syphoning information from my web site which is out of context and possibly a copyright violation?

My internet provider was contacted once before by one such "search engine" company in an attempt to curtail/control my correspondence to them.

EXCERPT FROM A LETTER OF COMPLAINT

This is getting out of hand with got you [HOT BOT] and Lycos infiltrating and just collecting enormous amounts of information which makes the database look like a pile of garbage. Please, stay with me for a moment: Really compare the authenticity of a YAHOO listing with numerous repetitive and often incorrect instances of listings on some of the junk databases.

But getting away from principle for the moment, I simply cannot have an editor or publisher see a poem which is NOT properly introduced or formatted in stanzas...it makes me look like an amateur.

I have a very deliberate and specific way of introducing my work, then and only then inviting a look for further inquiry. This is the ONLY way my work is to be represented if ever listed in a database, which at the moment I vehemently do NOT want.

Anthony L. Pecoraro
Correspondence Coordinator
& Poet/Writer/Actor
INTERNET: alp@loop.com
http://www.loop.com/~alp/

Mr. Pecoraro:

So many newbies. So little time.

First, I seriously doubt anyone is out to steal your work or misrepresent you. I do understand the desire to control your presentation and work and I have a solution for you. Immediately disconnect the cable, usually yellow but sometimes blue, connecting the Network Interface Card from your web server machine. By severing the connection to the Internet, you will again regain total control of your work - which you are very much entitled to.

This is the most elegant variation I've received on the theme of "I should be able to go out in public naked without all these people looking at me." It harkens back to nudist philosophy in some eerie ways.

From my perspective, the World Wide Web works in a certain, definable, and very specific manner. It was, by design, developed to foster open sharing of public documents across the network using hyperlinks.

If you put up a web site, you are demonstrably and absolutely agreeing to put your information in public and subject it to the inherent implications of that network. This causes you to give up some control in exchange for some exposure (actually the classic publishing connundrum - not even advanced in form). You, and you are by no means alone, would have your cake and eat it too. " I want the exposure and advantages of the medium without paying the price."

Once the links are there, they are there for all to use for nearly any purpose. And building a search/index engine hardly qualifies as nefarious loopholing even then. That said, early on it was determined that spider-like search engines consumed resources and did occasionally stumble into areas where information was stored that was not meant for public consumption. A technical solution was found where you could post a file that on encountering it, a search engine would cease searching/cataloging your site. Most search engines do observe this protocol. So at least a partial solution to your dilemma apparently exists. You can create a "go away" file and put it on your web site and they should in most cases go away without continuing the search.

The first solution, disconnect from the net, is a little drastic, but 100% effective. The second solution is a little more flexible, and perhaps a little less effective but would probably be the direction I would go. The solution you have opted for, complaining about the way the web works extant, is probably not very effective at all.

We all share the highway. Note the other cars.

Jack Rickard

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ISP IN CAPE GIRARDEAU, MISSOURI

I just read your editorial in the August issue of ***Boardwatch***. I was sad to see that you couldn't find an ISP for Cape Girardeau, Missouri. You see I am the ISP severing Cape Girardeau, Perryville, and soon Sikeston. I also serve some of the out lying St. Louis areas also like St. Charles, St. Peters, and others that are a long distance call to St. Louis. I am listed in Yahoo, thelist.com,...etc. and ***Boardwatch*** has been sending me stuff to fill out to be listed in your book for the last 3-4 months, each of which I had mailed back, or replied by email, and I have a subscription to your magazine. I have an ad that runs every Sunday in the newspaper ***(Southeast Missourian)***, and I work closely with most of the computers stores, and with Babbages. It seems that for all my efforts to let people know that I am out here, that it isn't enough. Any ideas on what I should be doing different to reach people like your family, and friends?

Also just to let you know I do have several customers who still use their CompuServe, and America On-Line accounts as there are a few support areas, and games that aren't offered on the Internet. They dial into me at 33.6k and then connect up with the online services since some have no local numbers or have low speed dial-up lines. I think there is still plenty of room for both the ISP and commercial services to be able to help each other out with things like this.

As for your problems of getting your setup connected to net, I can't understand what is so hard about it. Have you looked at the

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- Fully automatic backups, occurring at end-user specified times (typically nighttime hours). No conscious effort or end-user intervention required. The Ultimate in backup convenience!
- Suggested retail service pricing: $15.00 per month flat rate for typical computer (ie. 486/Pentium PC with a 500 Mg hard drive capacity and a 14.4 modem).

The Technology:

- Leading-edge client-server application designed to provide Wide Area Network PC data backup.
- System capacity redefines industry standards: backup up to 2500 PCs per 8 hour operating cycle.
- Full system backups and restoration, either online or to CD-ROM.
- Unix-based server platform and industry standard hardware configurations.
- Developed with the assistance of Canada's National Research Council (NRC).
- Utilizes standard telephone lines and modems. Also supports ISDN.
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- Fully scaleable system architecture.

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Microsoft TCP/IP stack for Windows 3.1? It is actually a pretty nice package. This is what we send out to our Windows 3.1 customers. it has a dial/stack, mail and a browser, and lets you read news from the browser. Not a bad little package of goodies that fits on to three disks. We also send our users a booklet that has screen captures showing step by step what they need to type to get up and online, for both Windows 3.1 and Windows 95.

Lastly you comment to have people go setup their mommy's computer then you will talk with them about the death of the ISP. Well actually I have both my parents, and my in-laws connected and on the net with Windows 95. My mother-in-law plays bridge every afternoon for about 3-4 hours. She is in her 70's and loves it. She got my mother interested in bridge again, so I went out and bought her a copy of Hoyle's Bridge, so she can get up to speed to play one the net with my mother-in-law. They both are playing on the Gaming Zone that was recently bought out by Microsoft (www.zone.com). It is a very cool site that lets you play in SVGA bridge, spades, chess, checkers and other games.

Anyway I just wanted to drop you a note and let you know that Southeast Missouri isn't as backwards as it may appear, that there is Internet there and available for people that are interested. That is what my ISP is all about bring the net to the rural areas of Missouri. If your family and friends are still looking for Internet accounts that are local they can reach me at **573-335-5458**, or **800-358-6429**.

Tim Jung
Internet Gateway, Inc.
tjung@igateway.net

Mr. Jung:

I'm very pleased you did.

Being listed in Yahoo, thelist, etc. is very attractive because it is very inexpensive. It's totally ineffective and largely the reason why we published the Directory of Internet Service Providers. If they are sufficiently online to access Yahoo or thelist, what do they need you for? They are already online.

The advertisement in the Southeast Missourian and local computer stores is much more effective I'm sure. I was only in town a few days and missed them, though I would point out that my mother missed them too.

As to the mommy test, I think you miss the point. Yes, I suppose three disks, a book, etc. might help. The whole point is that she didn't have them. Actually I didn't have them. And if you start from ground zero with a not new computer and want to get on the Internet, you face a non-trivial task. Suf-ficiently non-trivial that if you take away all those tools you have, and send you out on site with nothing but what's in the room and what you can pick up at a software store, you'll have a very eye-opening experience as to what your potential customers face. The point of "The Mommy Test" isn't that I don't know how to set up a computer. I wrote the definitive "How to Connect Windows 95 to anybody that isn't Microsoft Network" article that has been cited and reprinted at this point in over a hundred publications. The point is, are YOU aware of what you are asking non-technical customers to do and what they face when trying to buy your product? More pointedly, does the head of Bell South and AT&T know what they are talking about when they discuss stomping the small ISP out of existence? I'm seeing a lot of very knowledgeable sounding quotation and posturing these days, almost bereft of reality component. And yes, since you HAVE set up YOUR mothers computer, I will in this case deign speak/correspond with you.

I did not mean to imply that Southeast Missouri was at all backwards. Southeast Missouri is the largest exporter of quality people in the world. You cannot go into a corporation or company of any size doing anything significant in the entire country without finding someone from Cape Girardeau in some key position in the organization largely making it work. It is absolutely eerie. Children are raised in Southeast Missouri specifically for export - it's the largest crop in the region and exceeding soybeans by an order of magnitude. But like many areas of the country, Cape Girardeau does not enjoy the broad array of connectivity options that those living in San Francisco, Los Angeles, or Washington DC do.

We are most pleased to publish your letter, list you in our Directory of Internet Service Providers, and act in any way we can to support your efforts to bring connectivity to Southeast Missouri. It is literally our mission in life that you succeed.

Jack Rickard

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From: jack.rickard@boardwatch.com[SMTP: jack.rickard@boardwatch.com]
Sent: Monday, August 19, 1996 5:06 PM
Subject: hello and thanks

Just read your Directory issue. EXCELLENT JOB!

I work for a company that builds the fastest systems in the world-based on DEC Alpha technology, and alas we're almost neighbors!

This weekend I picked up you mag at the local Incredible Universe. It was like someone had turned on a light! Thanks for demystifying this paradigm changing, info system we call the internet.

Sincerely,

Rob

PS:
Visit our site sometime at **www.aspsys.com**!
Account Manager
Aspen Systems, Inc.
4026 Youngfield Street
Wheat Ridge, CO 80033-3862
(800)992-9242
Tel: **(303)431-4606** x106
Fax: **(303)431-7196**

We are neighbors Rob. Stop by for a cup of my famous Sumatra Mandehling and say hello.

Very pleased you found the directory enlightening.

Jack Rickard

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ISP DIRECTORY — SUGGESTION

Greetings,

RE: Suggestion for the next issue of the ***Boardwatch ISP Directory***:

For the major backbone carriers (UUNet, etc.) why not show maps of their network infrastructure in Canada, as you now do for the USA?

After all, North America is fully networked, and Canadian corporate purchasers might like to know how directly their carriers interconnect with the providers in the USA.

I know that UUNet Canada Inc. has a very efficient cross-Canada backbone, as well as 3 interconnects with their major POP's at the US border (Buffalo, etc.). All this deserves to be shown on the maps!

Thanks for a nice, consistent, insightful job on the magazine!

— William C. Stratas
The Internet Enterprise Group
Toronto, Ontario
wstratas@inforamp.net

William:

By your command. Let it be written. Let it be so - and throughout the realm.

Actually, I'm embarrassed to report the entire stopper here has been locating a 1 KM AVHRR mosaic composite of Canada of similar quality to the USGS map we use for the U.S. as a base map - and suitable for publication of course. Found one finally this week and as I write this, I'm trying to wrap up the letters to the editor for the October issue so I can get back to plotting, you guessed it, UUNET across Canada for our fall ISP Directory.

Does ANYONE know where I can find a similar base image of Mexico and/or South America? Huge TIFF's welcomed. I really like these 1 kilometer resolution Advanced Very High Resolution Radiometer (AVHRR) data acquired by the National Oceanic and Atmospheric Administration's (NOAA) Television Infrared Observation Satellite (TIROS) made into composite mosaics. But I need something for Mexico and South America.

Jack Rickard

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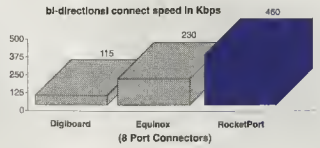
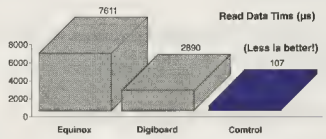


Comtrol's software drivers and technical support make it **easy to switch.** We provide drivers for Novell Netware Connect, Multiprotocol Routing, Windows NT RAS, UNIX, OS/2, and Linux. If you are already using one of these drivers, all you need to do is install your **RocketPort** card. I/O mapping eliminates memory conflicts and allows plug and play compatibility. **RocketPort** also gives you **30 times faster** processing! This host CPU efficiency allows you to add more ports or free up valuable CPU time.



For your additional needs, our technical experts are just a phone call away to give you step-by-step instructions.

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SCO OK

yes NetWare Tested and Approved

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COOL it works with LINUX

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LONG DISTANCE OPTION FOR YOUR MOM

Hi Jack,

Enjoyed your article. Glad to know that someone in the know also found it hard to get connected to the Internet. It took me exactly one month though I enjoyed the learning process. I am in a small town in Arkansas where we are fortunate to have a local access number to an area ISP (SAnet, Inc., El Dorado, AR.) I have a friend who lives in an even smaller town nearby and the cheapest option he has found is this.

Southwestern Bell has a service that allows you to call one number in your local long-distance service area unlimited hours for $15.00/month. So, he pays $20.00 for unlimited access to the ISP and $15.00 for unlimited calls to the ISP dial-up number. A great bargain, I think, for unlimited internet access from a town of 500 in the backwoods of South Arkansas. I agree that the future for local providers looks good. We love ours and they seem to be growing tremendously.

Take care,

Kim Keith
mom@sanet.com
http://www.sanet.com/mom/mom.htm

INTERNET ACCESS & THE MOMMY TEST

Jack,

Thanks for your Editor's Notes: InterNet Access & the Mommy Test."

Your three points: "First, Second and Finally...[no need to re-iterate them... they are in the magazine.] are very appropriate concerning the intricacies of configuring access and getting the "customer up and running".

For my opinion: Every ISP should have the experience of " The Mommy Test" and make that a prime focus of their customer service and build around it!

The 2 inch wave of current users is just the beginning...

There certainly are needs to satisfy:

1) to meet the ever increasing demand of those,who<wanna.be.on.the.'net@any ISP.net /.com/. org/.gov/.mil>

2) to deliver that service and content with finesse and perspicacity

3) to sink or swim (read: surf) the tsunami or wash upon the beach as so much flot sam and jetsam (read: litter beside the superhighway...

<No "Suck-up comment inserted>... However, <It's not "Sucking-up" to re-iterate: ***BoardWatch Magazine*** -is the original and best InterNet, World Wide Web and BBS magazine on planet Earth that diligently and consistently speaks the language of all InterNet, World Wide Web and BBS users!>

Please, continue with your very important work!

Sincerely with Best Regards,
Ed' aka Edward G. Girard
jerry@southeast.net
MIS-Systems Administrator
Jacksonville, Florida

Some days the hills look steep and the legs do tire. But I'm peddling as hard as I can Ed.

Very pleased you found the test appropriate.

Jack Rickard

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WIN 95 CONNECTED ARTICLE NOV 95

Jack,

I work for an ISP in Kuala Lumpur, Malaysia and currently I am involved in a project which requires me to write a short HOWTO on setting up an Internet Connection for Windows 95. Since your article in Nov 95 covered most of what I need; I would like to ask you how my company THB Asia Connect can use that article as part of our manual which will be distributed to customers. That article will be use in a commercial sense and I would like to get a quote from you on how much you will charge for it. Thanks very much and keep up the good work at ***Boardwatch***.

gavin@asiaconnect.com.my
THB Asia Connect
Kuala Lumpur, Malaysia

Gavin:

*We've done more of this with that specific article than anything else we've ever published. Call Brian Noto at **(303)973-6038** and he'll fix you up. Very pleased you all are extending the net in Kuala Lumpur.*

Jack Rickard

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INTERNET ARCHITECTURE

Dear Jack,

I have just finished reading your article on Internet architecture in the Summer 1996 ISP Guide. I have been on a "treasure hunt" for the structural information of the Internet myself. I have found, and you allude to this in the article, that there is a surprising dearth of information about the Internet from ISPs of whatever level. I would go so far as to say that you article contains more insight into Internet structure than I have seen in evidence from all the ISP representatives that I have dealt with. The usual response that I get is, "Gee, that's a very good question. When you find out the answer let me know. I haven't a clue as to where to look myself."

You referred at several points in your article to ISPs that are working with smoke and mirrors in the description of their service, were unreasonably secretive, or arrogant. You didn't say who they were. Is thatalso a secret?

Also, the grand list of ISPs in the guide is their a way to determine which national provider THEY are using? Or, (and neither you nor I would be surprised by this) do they consider that proprietary information?

Once again, thank you for your efforts. And, to keep in the common ISP practice of not disseminating information, I will burn all copies of your article that I can find ;)

Best Regards,
Jim Cottle
cottlej@artwave.com

P.S. My company, The Artwave Group, consults with media production companies and the city of Burbank on matters related to the Internet and using high bandwidth digital communications for transmitting high end media products.

Jim:

Understand that I spend a lot of time indoors, I drink a LOT of coffee, and it took several months of begging, pleading, threatening, and otherwise wheedling to get a lot of that information. I fear it made me a touch cranky on the editorial side.

But understand the human dynamic going on here. Everyone on the Internet is an absolute expert on the part of it they have in the room with them. I'm not being sarcastic. It takes a certain level of expertise to do almost anything, and if you are kind of busy doing it, it is unlikely that you'll be totally cognizant of what is happening across the planet or even across the company. The real architects are stressed out, pushed by people in management that don't know butt about butt, and are kind of focused right this minute on keeping the whole damn thing up in the air for another night.

Large companies deal with the "press" using Public Relations Professionals. Actually, they must be pretty good at their job or everyone wouldn't be using this model. But we're barely "press" in all reality and modesty. Now these guys are accustomed to putting out press releases nobly noting that by "tightly integrating a total turnkey solution, company xyz can deliver the ultimate in reliable, painfree access to a fascinating global internet that can make you rich as Crotius too."

Now here I stumble into the room demanding to know by Friday whether the router in Rialto California is connected to the router in Austell Georgia using two DS-3 circuits or one OC-3 circuit and why does traceroute show something different?

The answer of course is that they don't know, and it would be a terrible amount of trouble to find out. They have to go through layers of management to even GET to anyone that would know. Everyone along the way has the opportunity to say no - it's a secret, and no one actually has a clue until we get down to the stressed out engineer.

So there are some real dynamics at play here that tend to make public relations guys look

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like totally stupid, but at least arrogant, incompetents. And that's what happens to the GOOD ones. So it's probably not really feasible to do what we're trying to do.

The good news is that from the summer issue, virtually everyone from the PR guy to the management guys to the architects agree that while it's not a perfect picture, it is probably worth the pain and the book is useful even to them. We're even getting some of the companies to give it up and admit that we're not Time Magazine, and it probably does more good than harm to let us in to talk to the real geeks that make it work and forget or at least modify the whole "image/message management" approach in this one case. The publication is pretty techie anyway and it's unlikely to show up on Ted Koeppel's Nightline.

So we are actually getting much better information for the Fall issue than we did for the Summer and with much less effort. Another couple of issues and we'll probably all have a party somewhere and tell jokes about it.

The bottom line is that I don't truly believe that most ISPs or national backbone operators are trying to deceive you. They don't know. And "I don't know" is a hard message to choke out when you're trying to make a sale or impress someone. So it's easier to say it's "proprietary" or "secret" or "unknowable" or otherwise something. From their end, "customers ask the darndest things" to paraphrase Mr. Linkletter.

It is our hope that in developing the Directory, all parties involved including the customers, the ISPs, the National Backbone Operators, will have a better overview and perhaps a common language to use when discussing the Internet. If we accomplish nothing else (oh getting it into the black financially might be nice), it will have been yeoman's work and good enough.

Jack Rickard

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THE MOMMY TEST

Jack, we're traveling down the same road. My mother is a retired librarian on a low fixed income.

She was hooked by ATT's offer of a free hookup to the Internet. She had sampled the Web in various places, and her time was now. We assembled her a computer, installed the requisite software and guess what? My mom lives in Vermont, where ATT's internet access IS NOT FREE!

After waiting for the account, and reading all of the fine print on every signup screen, AND providing a charge account number, she was advised that there was no service available to her locally, and that she would either need to incur their long distance charges, or dial a toll free 800 number which, and this is the real topper, had an hourly charge.

After repeated emails to ATT, nothing has happened (surprise!). Anyway, I'm beginning a letter writing campaign to inform people of the charges associated with the offer.

Inherit the earth? ATT, MCI, and Sprint will more likely inherit the wind.

Mike Graham
grahamme@lillith.crd.ge.com

Mike:

Mommie's are tough. That's why its a test.

I'm assured by all parties at AT&T that everything is going marvelously, they have literally hundreds of support people online at all times (helping all those mom's at a cost to AT&T of about $90 per hour), and that it is all going just marvelously. Just marvelously...

Smirkin over here Tam..

Jack Rickard

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MS FRONTPAGE "EVANGALIST"

I'd like to clarify Durant Imboden's sidebar titled "ISPs Balk at Rebooting." The sidebar contains inaccurate information concerning the FrontPage Server Extensions and the need for the server to be restarted.

The web server does not need to be restarted each time a customer edits a web page or updates part of their web with FrontPage. As with all CGI programs, the FrontPage Server Extensions need to be stored in directories that are marked by the server as containing executable files. During installation, the FrontPage Server Administrator updates the configuration file with new directives which mark the FrontPage-specific directories as containing executable files. This is the only time a server restart is required.

We hope this clarifies any misconception. Internet Service Providers who have questions about the FrontPage Server Extensions can send **mailto:fptech@microsoft.com**.

Kelly A. Hardebeck
ISP Technology Evangalist (sic)
Microsoft FrontPage

Dear Kelly:

I never said the server needed to be restarted each time a Web site was edited. I merely quoted Microsoft's own Web Hosting FAQ, which said the server needed to be restarted each time a customer created a "new web."

This flaw isn't a major hardship for users with their own servers — but it's obviously a nuisance for ISPs who host dozens or even hundreds of customer Web sites. Still, many ISPs will regard the extra work as an opportunity, since they'll be able to grab FrontPage business from ISPs who are less tolerant of FrontPage's idiosyncrasies.

If it makes Kelly feel any better, I think FrontPage is wonderful from a user's point of view — and I'm currently looking for a FrontPage-compatible ISP to host my own Web sites.

Durant Imboden

TRAGICALLY TRUE TECH SUPPORT TALES

In 1981 I worked in Richmond, VA for Lawyers Title Insurance Corp. as system administrator of an online system used by the company and others in the industry for access to public records in 16 major counties in the eastern US. The system was a mainframe (IBM 360) connected by whopping 9600 bps trunk lines to each area, then multiplexed at the then normal speeds (1200bps) to 327x devices in various offices.

One morning I got a call from a user who wanted to know how long the computer was to be down. Having just checked the system, I knew it was up, and so began to trouble shoot.

Tech Rep: *"What do you see on your screen?"*

Caller: "Nothing, the screen is dark."

Tech Rep: *"Is it on?"*

Caller: "Yes."

Tech Rep: *"Can you tell me what lights are on on your modem?"*

Caller: "I can't see my modem."

Tech Rep: *"Why not?"*

Caller: "It's too dark in here."

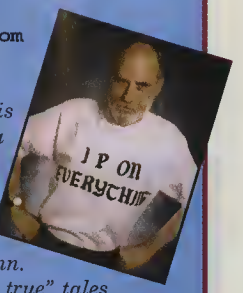
Tech Rep: *"What do you mean, it's too dark?"*

Caller: "The power is off in the building and the lights are out."

Tech Rep: *"Why do you think you can use your terminal if the power is off?"*

Caller: "The phones still work!"

John L. Jones
Arion Zoe Corp.
jjones@bookends.com



Editor's note: John is the first winner of a "Billgatus of Borg" or "IP On Everything" T-shirt in the contest announced in last month's Telebits column. Send your "tragically true" tales from the tech support desk to **mailto:david.hakala@boardwatch.com** *and include your snailmail address.*

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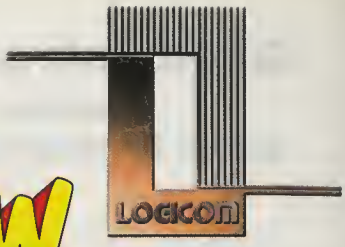

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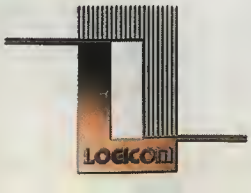

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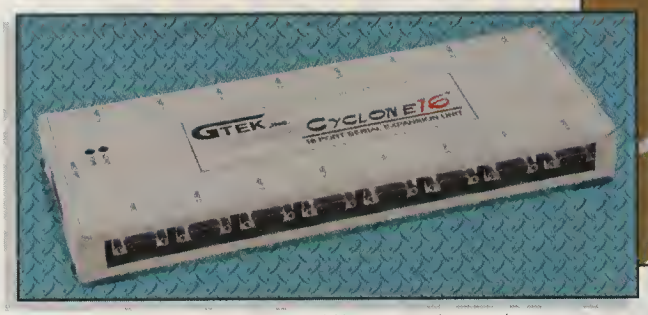
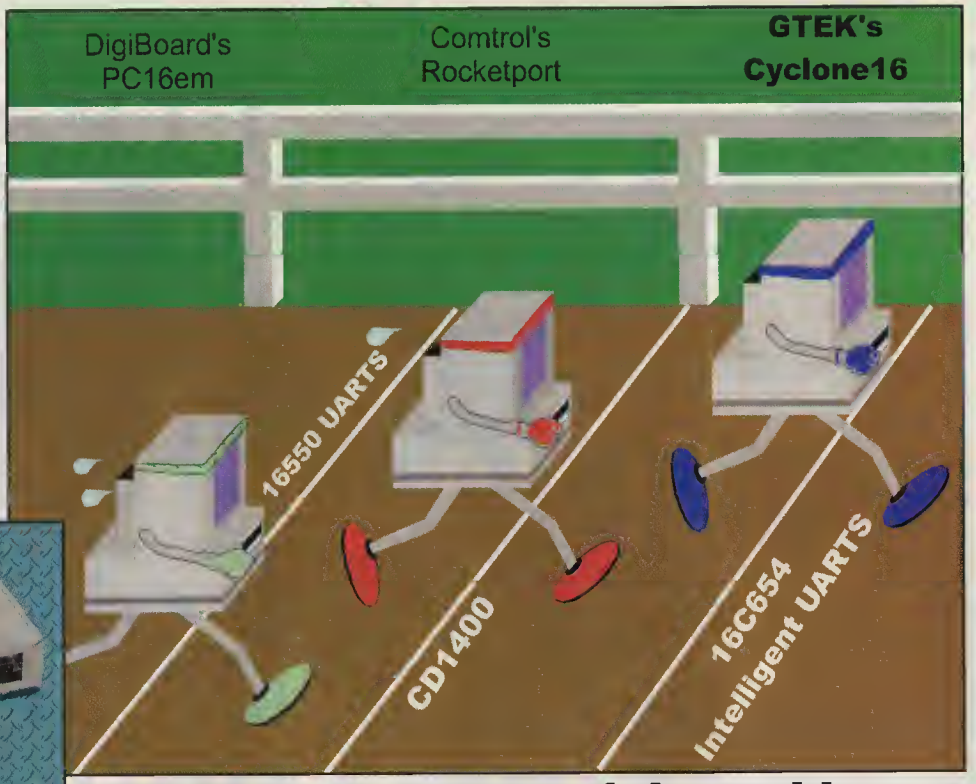


Cyclone16 is shown. Cyclone32 is ovoilobie os an upgrode or complete unit.



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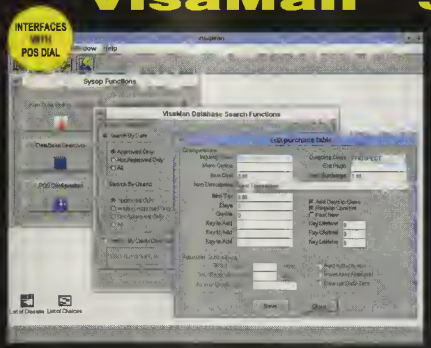

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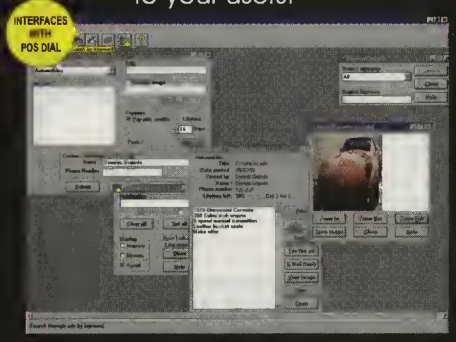

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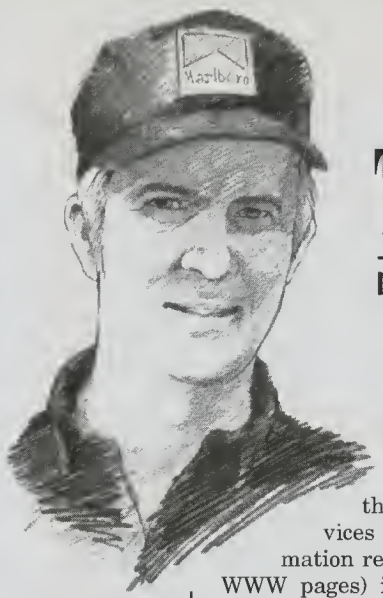


TECHNOLOGY FRONT

by Jim Thompson
Western News Service

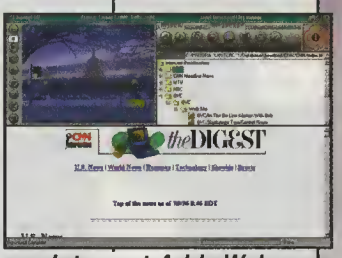
INTERCAST – INTEL'S ALMOST-HERE INTERNET/TV STANDARD

Jim Thompson is Managing Editor of Western News Service in Los Angeles, California. He also manages the Marlboro Racing News BBS. CompuServe: **72777,2677**, MCI Mail: **321-4127**, **mailto: jim.thompson @wnsnews.com**

In the old days, it was the clacking of the wire machines (teletypes) that set the tone and the beat of the news room. Today that rhythmic sound has been replaced by the hum of computers and the television monitor. While much of the news is still gathered from wire services or from our own correspondents, information received via the Internet (i. e., e-mail and WWW pages) is becoming an increasingly important part of the business of gathering and processing news.

While I nostalgically miss the clicktey-clack of the teletype, I find the new technologies faster and more efficient. Still, it is often hard to monitor all sources at the same time.

For all us "news junkies," Hauppauge Computer Works, Inc. has come up with a nifty device called ***WinCast/TV***. This single slot PCI card has a 125-channel TV tuner and a video digitizer which allows you to view a video image (from a TV, VCR or video camera) in a sizable window on your PC.



Intercast Adds Web Pages to Broadcast TV

WinCast/TV also separates the new ***Intercast*** data from the TV signal, allowing you to view World Wide Web pages in a window along with the live TV pictures. You can even receive closed caption information at the same time.

BROADCAST TV MEETS THE INTERNET

Intercast is a combination of live television and Internet Web pages. The TV signal is received either over the airwaves or via cable (either signal can be piped to the WinCast/TV card). The Web pages are transmitted via the Vertical Blanking Area of the signal. (See the Intercast Industry Group's Web site at **http://www .intercast.org** for details)

An Intercast Web page is no different from a "normal" Web page. The only difference is that the pages are sent to your TV tuner by the broadcaster, in the same signal that brings you "Seinfeld." Your tuner may be the one built into the WinCast/TV card, or an external video-input source such as the TV set in your living room.

However, these pages are not interactive. That is, you cannot send a signal back to the broadcaster requesting additional pages. Essentially, you get what they decide to send. For example, when viewing a sports broadcast, the TV producer may decide to send Web pages showing statistics, scores, biographies and even the personal Web pages of the participating athletes.

Once you have a page, you can access links or other, non-related, pages. This is done by firing up your browser and establishing a "normal" link to your Internet provider (this could be via dial-up or direct Internet access). The browser-accessed pages are displayed in the same manner and location as the pages sent by the broadcasters, allowing you to view the pages and the broadcast at the same time.

SPECIFIC VIDEO CARDS AND DRIVERS

The broadcast video is displayed using the "PCI Push technique." According to Hauppauge Computer Works, this means that, "after digitizing the live video using high quality 4:2:2 video sampling, the digitized video is sent over the PCI bus into the memory of a VGA display adapter, where it is converted into RGB (red, green, blue) video. This allows the digitized video to move efficiently, and takes a fraction of the available bandwidth of the PCI bus."

PCI Push does require Windows 95 Direct Draw support, so only a few video cards are compatible with WinCast/TV. At the time of this writing, S3 Trio64V+, S3 ViRGE 3D, Matrox Millenium, Cirrus Logic 5446, ATI VT and GT series of graphics display adapters were known to be compatible. Additionally, any graphics display adapter which supports Direct Draw drivers will work.

WinCast/TV is on a PCI card and, therefore requires a PCI (Pentium) motherboard. Of course, it also requires a PCI graphics adapter. It cannot be used with 16-bit adapters. Although no audio functions are provided on the board, audio output jacks allow for a connection to a sound card. There are also S-video and RCA-type connectors for VCR, DSS satellite receiver, camcorder or video camera.

VIDEO FRAME GRABBING

If you can't receive Intercast in your area, or want to watch a channel that does not offer the service, you can still view the Web while watching television. Just launch your browser and connect to your ISP; you watch TV in a window and surf the Web as normal.

Besides being able to view TV signals and Web pages at the same time you can also use WinCast/TV as a video frame grabber, allowing you to capture still images from a video source. Digital movies can also be created using the Win/TV capture program.

Depending on your processor, the capture process can be slow and spotty. "For example, if the processor is slow,

you will not be able to save one digital image before the next one comes into the Win/TV. In this case you cannot capture 30 video frames per seconds. In general, a 90MHz Pentium can save a digital video movie at 15 frames per second if the image size is below 320x240.

PAINLESS INSTALL

Installing and setting up the Win-Cast/TV board was not too difficult. It fit easily into the PCI slot of my PC. The Intel Intercast Viewer program worked perfectly.

I did run into some problems when I first tried to use the system. I currently have a Diamond Viper 64 VRAM video card with 4-MB of memory — a card that should work with WinCast/TV. However, I kept getting error messages and found that the video was jerky.

A call to tech support solved the problem in a few minutes. All I needed was the newest Direct Draw driver for my video card, which I was able to download from the Hauppauge Web site.

BROADCAST BLUES

There were, however, other problems and difficulties. The main one is that currently only a few broadcasters and cable providers offer Intercast. The first to sign on to the new technology was NBC. They offered Intercast along with the 1996 Summer Olympic games and provide the service along with their national telecasts. This means that you can pick up Intercast (in theory) via NBC if the program is being sent live across the country. Often you see network programming that is actually taped delayed in your local area — these programs will not contain the Intercast signal.

On the cable dial, CNN, QVC and MTV are providing Intercast — at least they are supposed to provide it. Although I get these stations from my local cable company, and, although the cable company is supposed to provide Intercast, I was unable to receive it. This made setting up the WinCast/TV board very difficult. Although everything seemed to work properly (I got the TV signal and could connect via a dial-up line to the Internet), I could not receive the Intercast signal.

Hauppauge tech support said it should work, but it didn't. I checked with Intel to make sure that my cable company was supposed to be providing the service in my area. Again, the answer was, yes. I then called the cable company which turned out to be a big waste of time. The initial response was "what is Intercast?" It seemed that no one has ever heard of it. About 20 calls later, I found someone who at least knew what it was, but wasn't sure if it was actually working. I finally got tired of being put on hold and talking with people who had no clue of what I was talking about and decided to hook up some rabbit ears (talk about a new low in high tech) and try it that way.

Waiting for a nationally broadcast signal from a single network at a reasonable time of the day or night is a bit like fishing in a polluted lake without bait. If you have the patience, you might catch something, but it may be of such a low quality that you won't want it.

After two days, I got nothing, so I went back to the cable. To my surprise, I began to find some Intercast data. Maybe my call to the cable company had an effect (highly doubtful, but, maybe).

NO WEB PAGES

I received signals from both NBC and QVC. The picture was bright and smooth — no jerky motion. What I didn't get was Web pages. I could connect via my local ISP, but got nothing from the broadcasters. I called tech support again and was told that sometimes broadcasters send only a marker and no real data. From what they could tell, everything was working perfectly on my end. I was told to have patience and it should start coming any time.

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PowerRack user and Internet Service Provider Rick Smith, of Town Square Access (rick@tsa.net), commented, "I love my PowerRack. It costs about $2,000 for 16 ports. Ethernet connected, RADIUS supporting, full PPP, etc.etc.etc. And yes each port handles over 900K per port! It's only $500 for each 16-port card to add to the first 16. The box can support 64 (4 cards) ports. By the time all is said and done, the final price is $3,500 for 64 ports. Comparable Livingston Portmaster will cost you approximately $6,000 for only 60 ports."

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So, I waited. I locked the tuner on NBC and watched, and watched and watched. I got to see the morning show and suffered through that goofy weather guy who finds everything funny. I learned about how to get a clean wash and how to reduce the pain of PMS — everything but Intercast reception. After a few hours, NBC stopped sending Intercast (at least that is what the software indicated).

My next try was with QVC. Since these guys want to sell me something, I assumed their signal should work fine — wrong! Although the software indicated that a strong Intercast signal was being sent, after a full day, I never received anything.

I tried at night during the Republican National Convention (surely the politicians wouldn't miss a chance to capture my heart and my mind!), with no success. Although CNN and MTV are supposed to be sending data all the time, I never did get anything from them. I assume this is the fault of my cable company which could be the very worst in the country.

CONCLUSIONS

I certainly like the idea of WinCast/TV and Intercast. The concept of receiving a television signal along with data is very appealing. I can imagine watching a financial program and receiving stock market information data at the same time. Unfortunately, I was never able to see any of this work.

This does not seem to be the fault of the Intel or Hauppauge software or the hardware. They appear to work fine. It also does not seem to be the fault of the technology. Using the Vertical Blanking Interval to transmit data is not new and does work.

It appears, very clearly, to be the fault of the broadcasters and cable companies. Currently, the technology is new and still in the "testing" or "playing" stage. One possibility is that the broadcasters are not putting much effort into Intercast at the moment. Another is that some cable companies are deliberately trying to squash this whole thing. After all, many are talking loudly about providing Internet services themselves over existing cable lines. I would not be surprised if they see Intercast as potential competition for what may be a future source of revenue.

The real question is just how committed the broadcasters are to this technology. At the moment, it's a good idea that is not being implemented (at least not on a regular basis in my area). If this technology is of interest to you, my advice is to first make sure you have the proper video adapter, then check with your cable company and make sure they are providing Intercast and that it really works. You should also call Hauppauge Computer Works, Inc. and talk with a tech support person. They are keeping lists of areas where Intercast is actually working and will be happy to help determine if it works in your area. Waiting for a Web page during peek hours on the Internet is frustrating enough, why put yourself through the pain of waiting for a page that may never arrive.◆

CONTACT INFORMATION

WinCast/TV
Hauppauge Computer Works, Inc.
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BBS: **(516) 434-8454**
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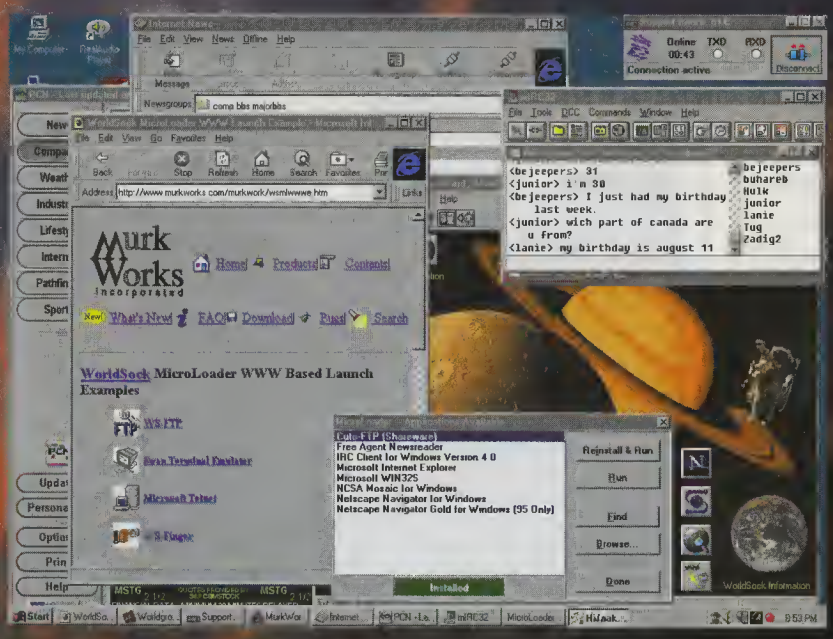

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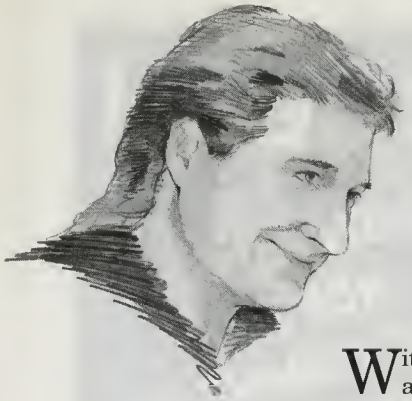

BABB'S BOOKMARKS by Chris Babb

A FLOOD OF CAMERAS

With the the Web, we now have the unique ability to make our words and deeds available to connected people throughout the world. Along with this goes artwork and maybe a picture or two. Scanning pictures is all good and fun, but I thought I'd take a look at some of the digital cameras that are affordable and available to eliminate an extra step in the process of getting what you want on the Web.

This was an interesting exercise (little did I know how interesting it would get) as only 2 of the 6 companies I contacted actually kept their promises to supply me with a camera to evaluate. After lots of phone calls and faxes to the manufacturers, I eventually received the ***Epson PhotoPC*** and the ***Kodak Digital Science DC-40***. Both of them are compact, easy to use and produce excellent results.

The premise behind both cameras is point, shoot and wait for the beep. When you fill the camera up, you connect it to your computer and transfer the pictures to your hard drive (and a few choice shots to your Web page).

Let's look at a few facts about each. Now, I'll bet your wondering what the deal is with the accompanying photos. Well, I was going to use my brand new pool table to show how well both cameras worked in reproducing color, etc. Just as I was in the process of putting all of this together, Mother Nature decided that she wanted to test the sewer system in Aurora, IL with 16.9" of rain in less than 24 hours. Needless to say, Aurora flunked the test miserably and all that water that was supposed to be whooshed away by the sewers whooshed instead into our basements. I had 7' (that's feet) or over 11,000 cubic feet worth in mine (bu-bye pool table and everything else down there) but I consider myself lucky. Some people had 4' of water on their first floor. Some had raw sewage fountains spewing from every drain in the house. Some had basement walls that collapsed. Some had basement floors that exploded upwards from the water pressure. Many lost their cars. Some lost their homes. We all gained a great respect for the power of water. I got some unreal digital photos of all this stuff. The pool table? The comparison photos show all that's left.

Chris Babb is a Senior Systems Engineer for Control Masters, Inc., a Systems Integrator located in Downers Grove, IL, where he designs industrial automation software by day. He's a member of the Aquila BBS/Internet Team by night. Chris has worked with Aquila since 1990 and currently handles technical support, Web design and construction, Internet training and various other online and offline duties. In his meager spare time, Chris enjoys music, playing bass guitar, the outdoors and his kitties. You can reach Chris via mailto:chris.babb@aquila.com

CAMERA 1

KODAK DIGITAL SCIENCE DC-40

http://www.kodak.com/daihome/DC40/Index-DC40

Sample Photo

List Price **$699**

This camera has a fixed focus (4' to infinity) and will hold up to 48 high resolution (756x504) photographs in its 4 Mb of RAM. This camera is a little bulkier than the Epson but the hand strap on the side helps make it comfortable to use. This camera can also use 37mm videocamera accessory lenses or filters which offer some unique abilities.

All camera functions are viewable in an LCD window that displays the battery level, number of pictures remaining, flash status and exposure level. You can adjust the flash, exposure and start the timer via two push buttons. One discomforting aspect of this camera is how easy it is to delete not just a single picture, but the entire "roll" by pressing the wrong button at the wrong time.

The software shipped with this camera is called PhotoEnhancer and makes it easy to empty the camera to your hard drive. Start the program, select View Pictures and you will get thumbnails of all the pictures currently in the camera. You can then select one or all of the pictures to be saved to disk in a variety of different formats. This program also allows access to all camera functions so you can easily clear it your next batch of photos and set it up for your exact needs.

While the camera comes with 4 AA Lithium batteries that allow you to take over 500 photos (depending on how often you use the flash), the batteries were dead when I got the camera so all of my tests were done with standard non-rechargeable Energizers.)

The current street price seems to be around $699 which makes this camera slightly more expensive than the Epson but then again, you are getting 4 Mb RAM standard as compared to 1 Mb in the Epson.

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$ 499* PCI, 16-port
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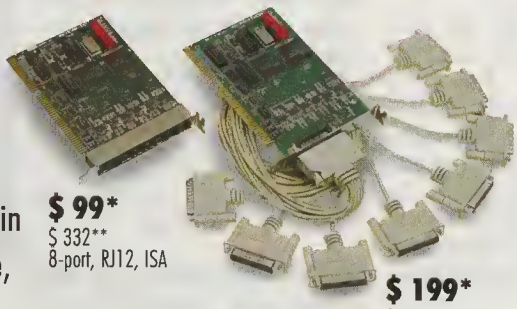

$ 99*
$ 332**
8-port, RJ12, ISA

$ 199*
$ 395**
8-port, DB25, ISA

* Promotionol price for resellers/ISRs/SysOps Coll for detoils
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CAMERA 2

EPSON PHOTOPC

http://www.epson.com/prod/scanners/digicam

Sample Photo

Base Price **$499**
2 Meg Memory Module - **$199**
4 Meg Memory Module - **$299**

This camera also has a fixed focus (2' to infinity) and can hold 32 standard (320x240) or 16 high (640x480) resolution photographs with the standard configuration of 1 Mb RAM. This camera is expandable by adding a 2 or 4 Mb memory module that allows you to hold up to 160 standard resolution photos. You can also use 37mm videocamera accessory lenses or filters.

All camera functions are displayed in an LCD window that shows your battery level, number of pictures remaining, resolution and flash status. You can make adjustments such as turning the flash on or off and starting the built in timer via small pushbuttons on top of the camera. You can also delete pictures via an indented button that must be pushed in with a pen. This is a great feature as it prevents deleting a picture unless you really want to. All of these functions are also contained in the software shipped with the camera.

The software shipped with the camera is called ***EasyPhoto*** and makes getting your pictures out of the camera a snap. Just start the program, choose the camera icon and all the pictures currently in the camera are displayed as a thumbnail. You then select any or all of the pictures to be stored to a Gallery. The only drawback here is that the images are stored to your hard drive in JPEG format. Once you have transferred the pictures to the Gallery, you can erase the entire camera for your next photo shoot.

All in all, both of these cameras give you a good bang for the buck although I still think all of these digital wonders are slightly over priced. Both are easy to use and offer good results. I feel that the Epson provides the best reproduction of color and light with the factory settings. The Kodak takes a good picture that seems more earthy to me, but the flash does not seem to carry as far or as well as the Epson. The advantage of the Kodak is a slightly larger photo and the ability to shoot and store 48 photos at a time. Let the photos speak for themselves.

REVIEW

EasyPhoto

by David Hakala

Digital cameras are the wave of the future, but what about all those "legacy" paper photos? I've started scanning and cataloging mine with the EasyPhoto Reader from Storm Primax, Inc. Of all the gadgets I've collected, this one is my favorite.

The **$199** gizmo is about the size of a Polaroid One-Step camera; it comfortably sits atop my modem. Feed it a photo up to five inches wide and it makes a 24-bit, true-color JPEG file with 200 dpi optical resolution (1200 dpi enhanced resolution). It's so simple my five year-old found the start button and was happily "skinning" himself in five minutes; then I kicked him off and had some fun myself.

The reader is available for Windows or Mac platforms. The software installs from floppies or CD-ROM and takes about 13 Mb of disk space. It can read JPEG, GIF, TIFF, BMP or Photo CD files (the Mac version also reads PICT, EPS) and automatically create galleries of thumbnail images from files already on your drive.

Editing features include red-eye and scratch removal; crop, resize, rotate and flip; contrast, brightness and color adjustment. Images can be saved as JPEG or BMP formats. You can also install an image as your Windows wallpaper. It ain't Adobe Photoshop — but I've never gotten the hang of Photoshop.

Support for OLE 2.0 or Mac Drag and Drop let you plunk an image into any other document; great for making Christmas cards or letters to Grandma.

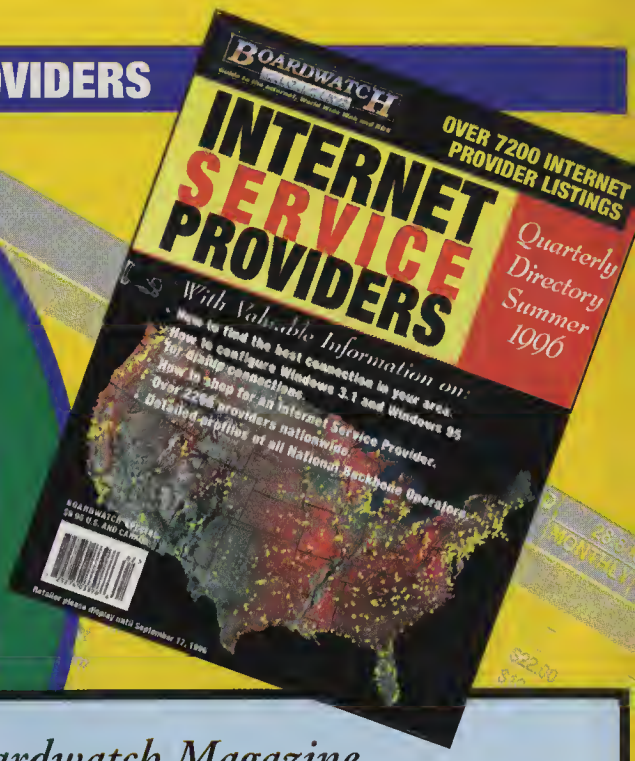
You can even share and edit photos over the Internet in real time, using Intel Corp.'s H.323-based Internet Phone (**http://www.intel.com/iaweb/cpc/epn**) and Storm Primax's EasyPhoto Net software.

The EasyPhoto reader is also available in a 5.25-inch drive format, which Hewlett Packard integrates in its new Pavilion 7130P PC line. The **$300** SmartPage scanner takes 8x10 pages and includes OCR software.

All of these products are available direct from Storm Primax (1861 Landings Drive, Mountain View, CA 94043; voice **(415) 691-6600**) or retail computer, office equipment and camera stores. The Internet Shopping Network (**http://www.isn.com**) also offers Storm products at 15-20% discounts off list prices. ◆

DIRECTORY OF INTERNET SERVICE PROVIDERS

IT'S HERE!



In addition to the provider directory the *Boardwatch Magazine Directory of Internet Service Providers* also contains valuable information on:

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Why get on the Internet

How to configure hardware to get on the Internet and how to use it once you're there

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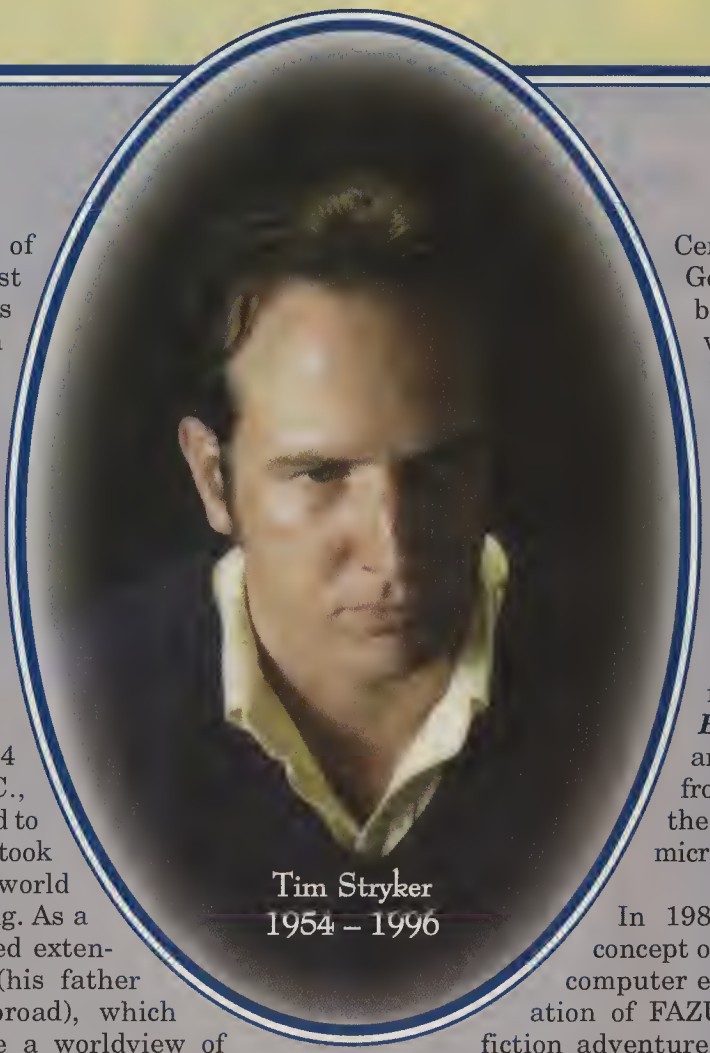
BOARDWATCH MAGAZINE

Guide to the Internet, World Wide Web and BBS

In Memory of Tim Stryker

by Scott J. Brinker



Tim Stryker
1954 – 1996

In the mountains of Colorado, on August 6, 1996, Galacticomm's founder and chairman Tim Stryker passed away. This has been an enormous loss to those of us who knew him. And it was a loss to those of you who didn't, yet were – or may someday be – affected by his creativity, vision, and hard work.

Born December 9, 1954 in Washington, D.C., Stryker – as he preferred to be called informally – took his own view of the world from the very beginning. As a young child, he traveled extensively in the Orient (his father frequently worked abroad), which helped him synthesize a worldview of East and West. At an early age, he initiated his entrepreneurial spirit by publishing several issues of a homegrown newsletter.

Stryker became captivated with computers in 1968, when his high school was funded by the NSF in an experimental long-distance hookup to the Kiewit Computer Center at Dartmouth College. He continued his formal education at Brown University, where he received his bachelor's degree in physics.

After college, Stryker worked for a number of high-tech firms in the Northeast. He then independently designed AZTARAC, a coin-op game manufactured by Centuri, Inc., consulted at General Electric on video-disc-based fighter pilot "courseware" systems, invented the RPL programming language, wrote the CO-LOG bar-code data collection package for Data Net Corp., and produced automated warehousing and nuclear-waste-handling process control software for Cybernated Controls Corp. During this time, he wrote for magazines such as ***BYTE***, ***Microcomputing***, and ***COMPUTE!*** on topics from solar power research to the design of stack-oriented microprocessors.

In 1984, Stryker pioneered the concept of community-based, dial-up computer entertainment with the creation of FAZUUL, a multiuser science-fiction adventure game operated in Miami, FL. He designed the game and developed all the underlying technology to support 40 simultaneous 300 bps modems on a single PC XT. It was during this project that he met his wife Christine, whom he married on January 2, 1985 in St. Thomas, Virgin Islands.

After the company that sponsored FAZUUL decided not to pursue the online market, Stryker kept the faith in the future of his technology and founded Galacticomm on July 4, 1985. Initially, Galacticomm operated a derivation of the game, known as FREEZUUL, in Ft. Lauderdale, FL. In 1986, the company introduced the Galacticomm Breakthrough

multi-modem card and developer's toolkit, along with The Major BBS. At this time, the business was literally run from Stryker's kitchen table. Over the years ahead, the company grew to be the largest worldwide provider of commercial bulletin board system software.

I first met Stryker in September 1986, after being an avid subscriber to his online entertainment system, and I became Stryker's first customer for The Major BBS. He generously agreed to teach me 'C' and the infrastructure of multiuser programming. Together, we co-authored a number of multiplayer games for The Major BBS, starting with Quest for Magic. It was a magical time.

The company became wildly successful based on the quality of its products, the vision of its founder, and Stryker's personal dedication to customer service. He believed that one should lead by example, and his passion for doing a job well infused everyone who worked with him. A motto he frequently espoused was: do what you love, and love what you do. Late into the night and through long weekends, he was undaunted by the challenges of building a world-class enterprise. The company's mission statement, applauded in ***Inc.*** magazine, was penned by him: to do really cool things in the field of computer communications and make a buck at it. Honest, creative, and eloquently communicated. That was Stryker's style.

Stryker considered his employees an extended family, and regularly invited them to his house. Many of us would regularly play Risk, Cosmic Encounter, Pente, poker, pool, chess, and frisbee over hamburgers and pizza, while we discussed everything from Galacticomm to existential philosophy. A big Fourth of July party annually celebrated both Independence Day and the launch of Galacticomm, with plenty of Roman candles and bottle rockets. Boston and Supertramp were two of Stryker's favorite rock bands, and their music could regularly be heard in the background at these events. Occasionally, Stryker would even grab his guitar and jam with a couple of us.

In November 1992, Stryker left the day-to-day business of Galacticomm. The first edition of his first book, a non-fiction work titled ***Think a Little***, was published in April 1993. An ambitious work, it explored many innovative ideas about the future of civilization and technology. Stryker hoped that by recognizing and dispelling what he labeled Reality Avoidance Syndrome – the tendency for people to deny unpleasant aspects of objective reality – we could be more successful at truly making this world a better place. He founded the Superdemocracy Foundation, a not-for-profit organization dedicated to advancing several of the book's key ideas, including electronic democracy and a networked "reference exchange."

Over the next several years, Stryker worked on a variety of special projects. He completed two other fiction books, ***Hacking Reality*** and ***What Goes Around...***, both currently unpublished. Using special software and algorithms he developed himself, he created a series of computer-generated art that was transferred to both film and canvas. And he continued to collaborate with the Galacticomm team on special projects, such as the early design and development of Worldgroup's client/server engine.

Enraptured by the beauty of the Rocky Mountains, Stryker moved his family to Salt Lake City, Utah, in July 1995. During the past year, he added paragliding and mountain hiking to his favorite activities.

Even people who had but a brief encounter with Stryker were left with the impression that he was a man of greatness. Not by his own words, for he was notably humble. But by his intellect, his character, his ability to express himself, and his natural energy and charisma. In many ways, he may not even have realized the impact he had upon millions of people around the globe, who through his ideas and software were able to meet and collaborate, in business, love, and friendship. More than most of us ever will, Stryker changed the world. And because of him and his contributions, it is a better place.

For me personally, Stryker was a friend, a mentor, and a soulmate. Among many, I loved him and I will miss him. He inspired me more than anyone I have ever known, or likely ever will.

His epitaph, which he chose many years ago, reads: Strange But True. ◆

PUBLISHING ON THE WEB

by Michael Erwin

PART 22 - SERVER SIDE INCLUDES REVEALED

Last month I made the mistake of discussing a security issue of an item called Server Side Includes. However, I forgot to show you in previous columns what Server Side Includes do. Sorry about that.

Page Counter Using Server Side Include

So this month I am going to introduce you to Server Side Includes, or SSI for short. SSI is used by some web masters to create HTML on the fly. Most of you have seen the results of SSI but may have not realized what is going on. For example, look at Figure 1. Notice that it includes the number of visitors to that page. Not that big of a deal right? They are using CGI right? Wrong. It's a Server Side Include.

How can you tell? Look at the HTML source that the web browser has received in Listing 1 from the web server. Nothing seems out of the ordinary does it. However, if you notice a little more than half way down, you will see the line:

<H3>You and 5190 other people have visted here</H3>

LISTING #1

TWO SSI'S USED IN FIGURE 1

```
<HTML><HEAD>
<TITLE>The Community Web</TITLE></HEAD>
<BODY>
<H2>Welcome to:<BR></H2>
<H1><CENTER>The Community</CENTER></H1>
<P>
<HR>
<P>
<H3>You and 5190 other people have visted here.</H3>
<P><P><P>
<CENTER><HR>
<I>Copyrighted 1996 by W. T. Pooh</I>
</CENTER>
</BODY>
</HTML>
```

Well if that had been generated by a normal page hit counter CGI script, the number 5190 might have been a graphic image of some sort. Instead, you notice that it is actual ASCII text within the HTML document, without any reference to a CGI script.

This means that the web server must have actually generated or manipulated the HTML code before you received it. Pretty neat trick isn't it? Matter of fact there is another SSI included in listing 1. Did you guess that the copyright notice was a Server Side Include?

So how does SSI work? Normally a web browser sends a request for an HTML document to the web server. First, the web server checks to see if the requested file exists. If the file does exist, the web server loads it into memory and then sends the HTML document to the web browser that requested it.

Once the web browser receives the document, the browser starts to parse the HTML document to see if there are other parts that it needs to request before it renders the HTML document. For example, when the browser finds an image source tag like:

<IMG SRC="picture.gif">

The browser immediately requests the additional HTML element, in this case a GIF file. Pretty simple, we have been working with this stuff for almost two years. Time to try something different.

Well what do you think would happen if we could get the web *server* to parse the HTML document before sending it to the requesting web browser? Well we get Server Side Includes!

SSI implementations vary according to your web server software. So before we go on, go grab your web server software's manual.

ACTIVATING SSI ON YOUR SERVER

We now need to turn on the web server's ability to handle SSI. Depending on your server software this will be different. For an NCSA compatible server, we need to edit the **access.conf** file first, which is shown in Listing 2. Particularly look at the first two lines. In this example, the first line tells the web server the directory in which to look for HTML to be parsed the HTML before sending the requested documents. In this case any documents in the directory **/var/www/docs/community** will be parsed for SSI, before being sent. The OPTIONS line actually tells the web server to check for SSI, or "Includes."

After editing the **access.conf** file, you will also need to check the MIME types in the **srm.conf** file. You will want to see if the following lines are added to the file.

AddType text/x-server-parsed-html .shtml
AddType application/x-httpd-cgi .cgi

Michael lives in Huntington, West Virginia, with his wife Jacqueline and Paxi Baby. (Jackie's Shar-Pei dog.) He has designed, built and administered network systems for over 16 years. Mike has organized and documented his 600-megabyte bag of tricks, tools and voodoo on a CD-ROM entitled, "*The WebMaster's Resource*." It is available for US**$24.95**, plus US**$2.00** shipping in the United States or US**$5.00** elsewhere; send check or money order to 320 36th Street, Huntington WV 25702-1632. Please allow 4-6 weeks for delivery. For more information **mailto: mikee @eve.net**

LISTING #2

ACCESS.CONF EXAMPLE TO ACTIVATE SSI

```
<DIRECTORY /var/www/docs/community>
        OPTIONS Includes
        AllowOverride None
        <LIMIT GET>
                order allow,deny
                allow from all
        </LIMIT>
</DIRECTORY>
```

However, you may want to look in your server's manual to verify how to enable SSI inside of documents. For example, in Chapter 5 of O'Reilly's ***WebSite Professional Basics*** manual, it states that, by default, HTML documents will be parsed if the extension is **.html-ssi**. But in Chapter 6 of the same manual, you can tell WebSite to process *all* files with the extension of **.html**. Process Software's web server, by default, uses the extension **.htp** for SSI documents. So please refer to your web server software manual for further configuration of SSI, since all servers handle it differently.

EMBEDDING SSI IN HTML DOCUMENTS

Now that you have SSI running on your server, let's look at SSI programming and how to embed SSI into your HTML documents.

SSI works by embedding the SSI statements into HTML remarks. For example, the following HTML line is a remark:

<!— This is a HTML Remark —>

When the web browser parses the string **<!—** it knows that a comment follows. When the web browser parses the string **—>** the browser knows that the comment or remark is finished. Well it's this little feature of HTML that makes SSI possible.

Look at this next SSI line, which works with O'Reilly WebSite:

<H3>You and <!—#totcnt—> other people have visted here.</H3>

When the web server parses the <!—# it then changes the comment's contents to the server variable **#totcnt**, which in this case equals the number 5190. So when the web browser receives the above code from the server it looks like this:

<H3>You and 5190 other people have visted here.</H3>

Pretty cool, huh? Look at the following NCSA server SSI line:

<H3>The current date and time is <!—#echo var="DATE_LOCAL" —></H3>

When the web browser gets this line, it receives it as:

<H3>The current date and time is 14 Aug 1996 18:23:48 GMT-5 </H3>

So, in this case the web server knows that it is being asked to echo the server variable "DATE_LOCAL". Isn't that neat! It may not be practical, but it is neat.

Here are a couple of other neat SSI tricks that you should try:

<I>Last Modified on: <!—#echo var="LAST_MODIFIED"—></I>

The preceding SSI code puts the last time the current HTML file was modified. This is great SSI for web masters. This should be a requirement.

<H2>Your IP address is: <!—#echo var="REMOTE_ADDR"—></H2>

The preceding line of SSI code places the IP address of the machine requesting the HTML document into the page. So this line is received as:

<H2>Your IP address is: 199.77.21.203</H2>

Or how about this SSI line:

<H2>So do you really like using : <!—#echo var="HTTP_USER_AGENT"—></H2>

Again, look at your server software's documentation to see which variables you can echo back to the web browser.

INCLUDING FILES WITH SSI

Now that you know you can echo variables back, lets take SSI a step further. For example, create a HTML file like the one in listing 3, and name it "copyright.html."

LISTING #3

EXAMPLE COPYRIGHT.HTML FILE

```
<CENTER><HR>
<I>Copyrighted 1996 by W. T. Pooh</I>
</CENTER>
```

Now take a look at the SSI HTML document in Listing 4. This is the actual listing of the HTML document that is shown in Figure 1. So when the web server parses the HTML, before the code is sent to the web browser, it looks like Listing 4. But the actual code that the web browser receives is the code shown way back in Listing 1. I hear the light bulbs going on!

LISTING #4

TWO SSI's USED IN FIGURE 1

```
<HTML><HEAD>
<TITLE>The Community Web</TITLE></HEAD>
<BODY>
<H2>Welcome to:<BR></H2>
<H1><CENTER>The Community</CENTER></H1>
<P>
<HR>
<P>
<H3>You and <!—#totcnt—> other people have visted here </H3>
<P><P><P>
<!—#include file="copyrght.html"—>
</BODY>
</HTML>
```

EXECUTING SCRIPTS AND PROGRAMS WITH SSI

The last thing I need to cover on SSI is the **exec** directive. Guess what this does. Yep, it executes scripts and other executables on the server. For example, look at the following line of SSI code:

<H2>Currently Jack is <!—#exec cgi="/cgi-bin/getjack.cgi—></H2>

In this example, the server runs a CGI script – **getjack.cgi** – then takes the output of the CGI script and replaces the SSI code with the output. The CGI script could actually look up the status of Jack on a small database and insert the appropriate text. For example:

<H2>Currently Jack is away from his desk.</H2>

<H2>Currently Jack is at ONE ISPCON.</H2>

<H2>Currently Jack is on the phone.</H2>

USE SSI WITH CAUTION

As I stated last month, there is nothing wrong with using SSI if you run a dedicated web server. I like SSI a lot. However, the nature of SSI is for the web server to include something into a requested HTML document. Again, think for a second... what would happen if I put the following lines in a HTML document, that is on a SSI enabled web server:

<!—#include file="/etc/passwd"—>
<!—#include file="/u01/bpm/creditcard.dat"—>
<!—#exec cmd="format c: /u/q"—>

Get the picture? So be very careful. And if you are using a NCSA derived web server, you can do something like what is shown in the "access.conf" file in listing 5. Here we have changed the OPTIONS directive to allow includes, but to not allow the web server to actually execute some CGI code in the specific directory.

LISTING #5

SECURE ACCESS.CONF FILE

```
<DIRECTORY /var/www/docs/protected>
  OPTIONS Includes IncludesNOEXEC
  AllowOverride None
  <LIMIT GET>
        order allow,deny
        allow from all
  </LIMIT>
</DIRECTORY>
```

Well that's all for this month, now I want you to go experiment with SSI. And send me your URL's so I can check out your progress. Till next month.....◆

mikee@eve.net

FURTHER INFORMATION ON SSI:

Boardwatch September 1996
Publishing on the Web - Security Issues #2

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WEB SERVERS DISSECTED

by Michael Erwin

PURVEYOR WEBSERVER FOR WINDOWS NT

Some of you may know of ***Process Software*** from the DEC VAX TCP/IP OpenVMS implementation. They make a nifty little package called ***TCPware*** which not only provides IP services, but also makes a VAX look something like a Novell NetWare server. Nice niche market.

This month we are going to take a look at Process Software's Purveyor ***WebServer for Windows NT***.

The product came in a normal sized box. The package contained eleven floppies, one CD-ROM, and three manuals. The User's Guide is 301 pages. The Programmer's Guide and the Server Encryption Guide are 58 pages and 149 pages, respectively. These last two are the best of the three, with the Server Encryption Guide the best of the three. However, the User's Guide is kind of loose. For example, they don't start covering the software installation until page 97. This is one area that Process Software can improve. Anyway back to the ranch...

INSTALLATION

Did you notice that I said that the software package came with a CD-ROM *and* eleven floppies? Well I wish that the actual WebServer software came on the CD-ROM. Instead, I had to swap eleven floppies to install the server software. The CD-ROM contains additional software, what Process Software Corporation calls "Tools for the Net."

I don't know about you, but I feel all software installs should be from CD-ROM. Heck, most of us have at least one and every commercial server system, no matter the manufacture of the hardware, has one. So, I was kind of taken aback by all the floppies, which undoubtedly added to the installation time. Counting floppy swaps, the base installation took about 30 minutes, one of the longest installs for just web server software.

After the base software installation is done, the software will build the Program Group. The installation also adds two icons to the control panel, one being the Purveyor icon, the other being the Purveyor Key Management icon. The installation also adds itself to the NT services registry.

CONFIGURATION & ADMINISTRATION

By double clicking on the "Purveyor" icon, the system launches the Purveyor Configuration utility. See Figure 1. Looks pretty standard today. Note in Figure 1 that the server supports SSL and Remote Server Management. However, you will need to click on the little scroll arrows in the upper right corner of the configuration utility to see all of the available configuration tabs. I personally find this is a little inconvenient and cumbersome.

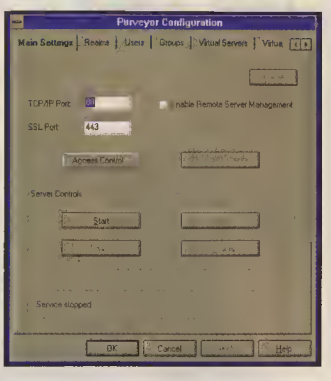

Figure 1
Configuration Utility

The user and group administration is the same as almost all of the better NT based web servers. However, take a look at the "Virtual Servers" tab. See Figure 2. You will notice that you can disable user authentication for every virtual server, so just be careful if you use this feature. By the way, Process Software's use of "virtual server" is just another term for a multi-homed server.

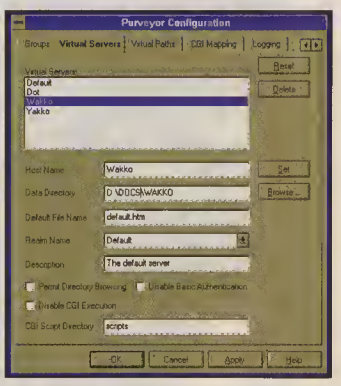

FIG 2
Virtual Servers Can Be Individually Configured

Notice that on the "Virtual Servers" tab you can change several options for each server, including directory browsing, CGI execution and CGI script locations. Not to mention document directory, the "Default File Name" a.k.a. the default index document file name.

However reading the documentation leads to a slight issue. To be able to use these "Virtual Servers" you will also need to configure NT to handle the servers' IP addresses, and also add these to the DNS entries yourself. So you will need to do some additional configuration.

Also notice in Figure 2 a tab called "Virtual Paths." Many of you are familiar with the use of a tilde (~) to create a redirected path. This feature is most common on UN*X based servers. For example, **http://www.eve.net/~mikee**. When the web server gets this request, the server knows that the **~mikee** represents my personal directory. Within my directory the server sends the requested documents out of a directory called "public_html." Well you can do the same thing with Purveyor.

Michael lives in Huntington, West Virginia, with his wife Jacqueline and Paxi Baby. (Jackie's Shar-Pei dog.) He has designed, built and administered network systems for over 16 years. Mike has organized and documented his 600-megabyte bag of tricks, tools and voodoo on a CD-ROM entitled, "*The WebMaster's Resource*." It is available for US**$24.95**, plus US**$2.00** shipping in the United States or US**$5.00** elsewhere; send check or money order to 320 36th Street, Huntington WV 25702-1632. Please allow 4-6 weeks for delivery. For more information **mailto: mikee @eve.net**

At this point you can start up the server by clicking on the start button shown in the Program Group. The initial installation also sets up automatic startup in the NT service registry. You can also start, stop, resume, pause and see the status of the server from the MS-DOS command line.

Once you have the server up and running, you can then fire up your favorite browser and send a request to the web server. You should see the default initial home page as shown in Figure 3. From this sample home page, you can try out most of the web server's features.

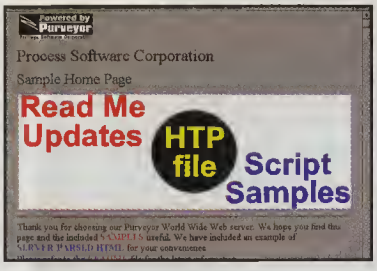

FIG 3
Purveyor's default Home Page

Now at this point you can launch the "Log Viewer." This neat little utility allows you to watch the log file. You can then output that log file in HTML, text or even spreadsheet formats. "Log Viewer" can also create simple pie chart graphs on server usage and page hit counts.

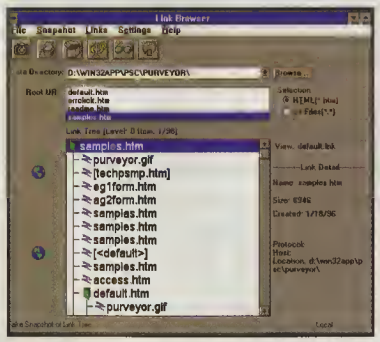

FIG 4
Link Browser monitors broken links and relations

The "Link Browser" shown in Figure 4 will search a URL looking for any broken hyperlinks. This is handy for searching your web site for broken links. It will also take a snapshot of the links. This is great for system administrators who have several departmental web masters updating their virtual site. This just keeps them in check. As anyone who manages a corporate web site knows, this can get out of control fairly quickly if you are not paying attention.

Purveyor will do SSL using the default SSL port of 443. However, you will need to configure the SSL Keys. You use another separate utility, called "Purveyor Key Management Configuration." You must use this utility to handle the SSL database keys. It would have been better if they had incorporated this into the "Purveyor Configuration" utility, instead of making it a standalone utility.

ISSUES

One of the things that gets my attention is remote administration, especially on NT systems. With UN*X based servers, I can do anything I want to the system from anywhere as long as I can telnet to the system and have access to FTP.

NT based systems are not usually that great for remote administration. However, for the most part, most of the commercial servers offer some sort of remote administration. Purveyor is no different. However, Purveyor takes another approach to handling it that I haven't seen from other vendors.

There is a two part remote administration technique. To remotely start the server, you will need to use NT's Remote Access Service, a.k.a. RAS. The problem with this method is, that you need to actually dial in with a modem to the server.

The second step is to use the included Remote Server Management utility (a.k.a RSM), which is just a CGI script running on the web server. Unlike Netscape, Purveyor uses the standard port 80 for access to the RSM. Another thing, the manual mentions that if you disable basic user authentication and enable RSM, then ANY user can use RSM to manage the server. Not a good thing.

Process Software also co-created the ISAPI specification with Microsoft. I wish however, they went into more detail in the manual on the topic though.

ODBC INTERFACE

They also included an ODBC interface, for attaching the web server to ODBC compliant database systems. By using the Purveyor Database Wizard, you can have the server automatically build HTML forms for ODBC databases. The Database Wizard will also handle all ODBC related programming needed to interface to an ODBC compliant database. This is a nice feature for simple interfacing, like adding to or querying a SQL database system. But it does not get fancy. For anything complicated, you will still need to do some work.

On the positive side, Purveyor includes a decent online help system. However, since they implemented the help via Microsoft's help utility, you can not access the help system from a web browser. That would have been a nice touch.

PERFORMANCE

Purveyor's performance is on par with most of the NT web servers. It handled the CGI and SSI pretty well. No glitches there. It does do a lot of internal caching, which seems to give it an edge on the time to load on the server side. ◆

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Purveyor WebServer for Windows NT

DISSECTION SUMMARY

PRICE ($495 basic, $799 Encrypted version)
INSTALLATION
ADMINISTRATION
USER AUTHENTICATION
DOCUMENTATION
CGI HANDLING
PERFORMANCE
AUDIENCE Intranets and Corporate Sites primarily

CONSUMMATE WINSOCK APPS

by Forrest Stroud

The applications reviewed here and many more are available on Stroud's Consummate Winsock Apps List, **http://www.stroud.com** and **http://www.cwsapps.com**.

Forrest H. Stroud is a recent graduate of The University of Texas at Austin. The Information Systems and Data Communications Management major is currently working as a full-time internet consultant in College Station, Texas. Stroud can be reached at **mailto:neuroses@stroud.net**.

This month's headline app, ***OnLive! Traveler***, is creating some serious waves in the Internet community. With the Traveler you can explore 3-Dimensional Net worlds through an avatar that allows you to see and speak with other users. Not only are netizens excited by this amazing technology, but developers as well are jumping on the bandwagon. MTV was the first to implement OnLive! Traveler, quickly followed by MCA for its movie "The Frighteners." This app is obviously already big and is on its way towards becoming huge. This week we present three of the existing OnLive! Traveler worlds that you can explore. Look for many more to emerge in the next few months...

MTV'S TIKKILAND — **http://mtv.com/tikkiland**

The Net according to MTV — Tikkiland is home to the Mighty Mighty Tikki God, the occasional MTV VJ, and a horde of MTV groupies... what more could anyone ask for?

THE FRIGHTENERS — **http://www.mca.com/universal_pictures/TheFrighteners/2onlive.html**

A dark, foreboding online world loosely based upon the MCA movie "The Frighteners," starring Michael J. Fox.

UTOPIA — **http://www.onlive.com/3Dcommunities/utopiamkt**

The original OnLive! Traveler world and still one of the best. Traveler tips, hints, and secrets abound in this heavily populated world.

ONLIVE! TRAVELER

Desc:	Vicarious living through an audio-capable avatar in a 3D Net world
Pros:	Your 3D avatar can audibly speak to others
Cons:	Slow, high processor requirements, 256 color display only
Location:	**http://www.onlive.com**
Status:	Free beta release
Company:	OnLive! Technologies

Imagine traveling through 3-Dimensional worlds and being able to speak to others along the way. Not just text-based speech, but live audible conversations. OnLive! Traveler delivers all of this and more. You create your own 3D avatar from more than 30 different alien, animal, and human characters that you can further customize. Then step into a realm unlike any you've ever encountered.

OnLive! Traveler is a step beyond applications like Alpha World and WorldsChat, and not just because of its advanced audio communications capabilities. Background music, ambient effects and realistic background scenes add extra dimension to the Traveler's mystique, while user profiles, online help, audio configuration wizards, an extremely useful "Where is Everyone" feature, hot spots, and landscape maps make this app simple and delightful to use.

Unfortunately, you're going to need some high-end hardware to run Traveler: no less than a Pentium with 16 megabytes of RAM, Windows 95, 14.4 Kbps modem, and a PPP connection or better (no support for SLIP as of yet). Oddly, the Traveler only displays 256 colors at this time, so you'll likely need to downshift your display settings.

CYBERPASSAGE FOR WINDOWS 95

Desc:	First VRML 2.0 browser
Pros:	VRML 2.0 adds animated 3-D worlds, Avatars and more
Cons:	Slow, high processor requirements, 256 color display only
Location:	**http://sonypic.com/vs**
Status:	Freeware
Company:	Sony Corporation

CyberPassage is a feature-replete browser that delivers unprecedented virtual reality features. MovingWorlds technology enables 3-Dimensional worlds like Sony's own Circus Park (**http://japan.park.org/Japan/Sony/3DWorld/Circus/index-e.html**). The unique features of CyberPassage are revealed by exploring Circus Park and the VRML samples included with the browser. Multiuser VRML worlds populated by avatars, background sound (birds chirp in the sample files included with CyberPassage), animation (drive through Sony's obstacle course), text-based chatting, collision detection, navigational tools (including Jumping Eye, Scouter, HeadLight, and Flyer modes), VRML bookmarks, and of course MovingWorlds technology highlight the impressive collection of features.

Circus Park includes attractions like a Ferris Wheel, Big Cannon, Parade, escaped animals from the local zoo, tents, buildings, puzzles, and secret passages. Click on the Jump icon and get an aerial view of the area as you fly high above the park. For VRML to deliver all of this is absolutely amazing and almost too good to be true.

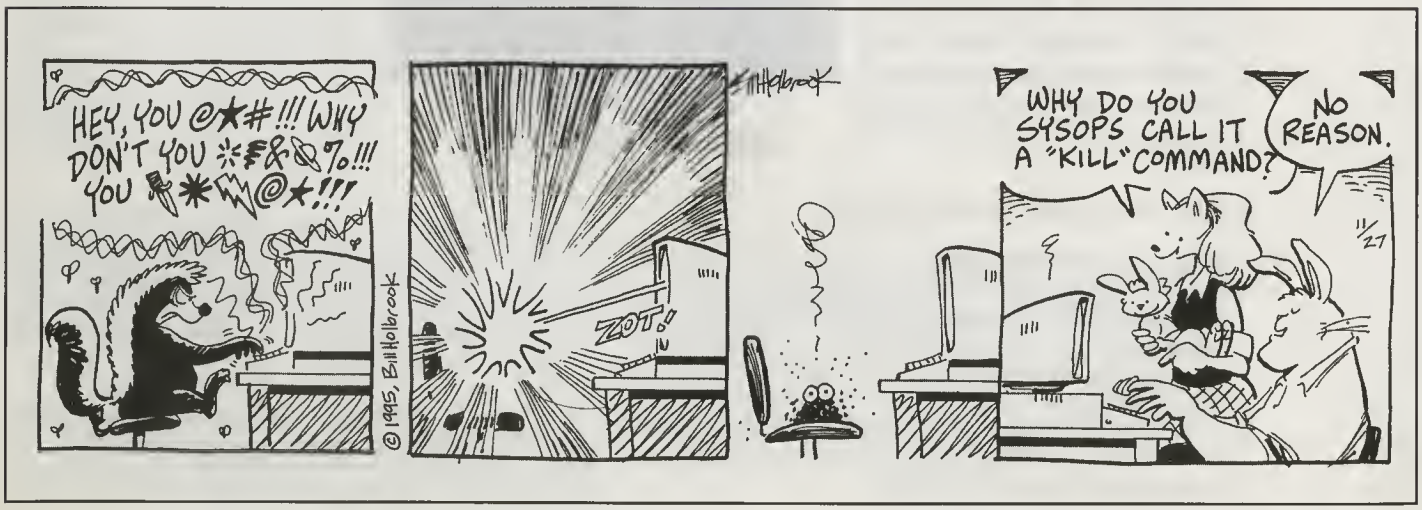
CyberPassage has more than its fair share of bugs. In fact, the current release has a technical glitch that inhibits its ability to run Circus Park, Sony's own showcase. For this reason, you'll need to download one of the earlier versions, available at **http://vs.sony.co.jp/VS-E/vstop.html**.

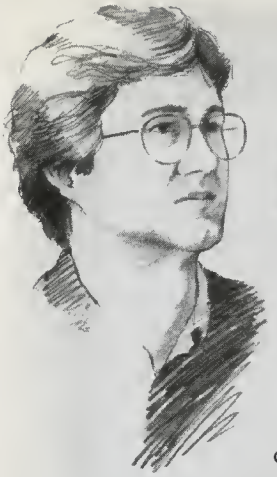
FREETEL

Desc:	Free voice communication over the Net
Pros:	Real-time voice communication once again achieved on the 'net, freeware status
Cons:	Free version contains advertising, lacks some features
Status:	Freeware. Commercial Version **$29.95**
Company:	FreeTel Communications, Inc
Website:	**http://www.freetel.com**

FreeTel is a new entry in the Internet telephony market. The product is free for non-commercial use (though it includes distracting advertising) or just **$29.95** to get rid of the advertising. Audio quality is surprisingly solid, though delays between sending and receiving messages tend to be longer than in comparable products. FreeTel is currently the only Internet phone client to offer separate bass and treble, microphone and speaker volume controls. FreeTel supports full-duplex (if you have the necessary hardware) or half-duplex communications. You can also communicate via old-fashioned text mode as well as send files to other users.

Additional features include CallerID, introduction messages, multiple user configurations, phone web links, and the "Booster" option. Booster is intended to improve sound quality during periods when the Internet is congested with traffic at the expense of minimal delay increases. FreeTel's electronic phone directory is testament to the popularity of the client; unfortunately, there are often so many people online that it can take a while to get a complete listing of users. A major annoyance in the free version is the inability to fully minimize the program - attempting to do so will minimize the interface, but you're still stuck with the advertising! The free version also has a permanent 'stay on top' feature that provides further hindrance to your attempts at removing the advertising (or working on other programs while in auto-receive mode). If you can look past these quirks, or if you take advantage of the inexpensive price tag for the commercial version, FreeTel can be a surprisingly fun client to use; if not, you're better off looking elsewhere.◆





DR. BOB by Bob Rankin

BRAD TEMPLETON — CLARINET PLAYER

Bob Rankin, known as "Doctor Bob" in the online world, is a writer, computer programmer and consultant who enjoys exploring the Internet and sharing the fruit of his experience with others. Bob is co-driver of ***The Internet TourBus*** and author of "***Accessing The Internet By E-Mail***", which has circulated widely on the Internet, and is available in 15 languages. Send e-mail to **BobRankin@MHV.net** or visit him on the web at **http://csbh.mhv.net/~bobrankin**

Brad Templeton is a guy who really likes a good joke. But he never expected that his love of humor would lead him into some serious business on the Net. Back in 1987, Brad created Usenet's **news:rec.humor.funny** newsgroup as an alternative to the unmoderated and not-so-funny **news:rec.humor** newsgroup. A year and a half later, an accidental posting of a slightly off-color joke set off a chain of events which ultimately led to the creation of ClariNet, the Net's first and largest electronic newspaper, now boasting over 1.5 million paid subscribers.

Brad Templeton has become one of the best-known personalities on the Net, but that's not so much because he's made a big success of ClariNet. It's more a function of his strong desire to help the Net grow and provide helpful material for newcomers. Brad is author of several Usenet FAQs including ***10 Big Myths About Copyright Explained, Emily Postnews Answers Your Questions on Netiquette*** and ***Top 11 Myths about the Internet and USENET***. (You'll find them at Brad's home page; see sidebar.)

He's also been prolific in the area of creating Internet software tools, including the ***Newsclip*** programming language and the Dynafeed dynamic netnews feeding system. I was fortunate to have the opportunity to chat with Brad at ISPCON in August.

DB: *Tell me a bit about your background with computers.*

BT: Actually I didn't touch a computer until I was 16, so I've always wondered about those people who say you have to use a computer from the time you're age 5 in order to survive in the digital world.

Brad Templeton, ClariNet News Pioneer

DB: *Let me guess - it was a TRS-80...*

BT: No the TRS-80 didn't exist then. The first computer I bought was a PET, actually. If you remember, the Apple II, the Commodore PET and the TRS- 80 all came out about the same time, and each made claims to being the first. Of course they were all designed independently, so I guess they all were the first. I did a lot of software for the Commodore computers in the early days — the first piece of software I published was a game for the Commodore.

DB: *Shareware?*

BT: No, no - commercial software. Shareware has never really worked, it's a bit of a hoax really. There are people who make money by starting out in shareware, like Katz and McAfee, but they're not making money due to people sending in $15 checks ... They're making money because they're getting corporate registrations and site licensing deals. Shareware is really an advertising mechanism.

I was still in school when I became the first employee of a company called Personal Software. I guess not many people remember that name anymore, because they changed their name to VisiCorp about half-way through their life. They were selling VisiCalc, the first big package to make it in the software industry.

That was a lot of fun, being around in the very beginning of the personal software industry. Companies were growing like nuts - it reminds me a lot of the Internet today.

DB: *How did you get your first taste of the Net?*

It was at VisiCorp that I was first introduced to the Net. We were trying to write software for the IBM PC, but it didn't exist yet. I was charged with writing a package for the PC, but I wasn't allowed to know what the computer was. We were just told to write it as portably as possible so it would someday run on this machine, so we wrote it in C on a Unix machine that was on the other coast. This system was on the ARPANET, so I was able to discover quite a bit. I also got an account on MIT's Multics machine about the same time, joined my first mailing list, and I thought it was pretty nifty.

So when things like Usenet sprang up I immediately decided that while spreadsheets were a neat revolution, the real revolution was going to come with people using computers to communicate with each other. I was sort of seeing in advance ... the cute slogan that Sun uses: "The Network is the Computer."

Today, it's the network connection that makes your computer what it is, because if you cut that off suddenly you can't do all this stuff that you normally do. And your files may not even reside on your own com-

puter, so that's making that phrase of Sun's become really true.

***DB:** What were some of your early doings on the Net?*

BT: Henry Spencer at the University of Toronto and I put up the first international USENET links with the help of Bill Shannon of DEC, who was the U.S. end. As far as I know there was no cross border networked bulletin board prior to this.

I also started doing what they call a moderated newsgroup on Usenet. I always liked jokes, and there was a very noisy jokes newsgroup (**news:rec.humor**) where people would post jokes about 1 time out of 100, and the other 99 were somebody yelling at someone else, people commenting on the jokes, or posting the same joke over and over.
People got pretty frustrated with that, so I said "Let's see if we can make something that's edited for quality and we'll see what happens." I started doing it (**news:rec.humor.funny**) and very specifically it was just whatever I thought was funny. There were other groups that had moderators, but it was pretty rare to have a newsgroup where somebody was not just watching over it, but actually editing it like a magazine. The reaction was pretty good — it became the most popular thing on the Net within six months and has stayed up there.

Seeing that it became one of the most popular things on the Net, and also seeing that I was spending way too much time on the Net, led me to think I'd better find a way to make my living from this, or get off of it! I think a lot of people in the BBS and Internet worlds probably had the same reaction.

***DB:** So you decided to Make Money Fast?*

Well, I said "Let's see if we can actually publish something and get people to pay." What I wanted to sell was something pretty simple - columns by Dave Barry, the popular humor writer. And I went to the syndicates that sell his work and they said "What?" I was undeterred, so I went and contacted a bunch of other sources and arranged the rights to carry some newswires such as UPI and Newsbytes. This was obviously not going to be some little side project where people would get Dave Barry by e-mail, which is just as well because that probably never would have worked. Instead it was to try and sell people a whole raft of news and put it in a format they could use.

So we put that together, created the software to make it happen, and started shipping it into people's servers. The distributed server system that we use is based on Usenet news, so we can distribute our stuff in a standard format and people can read it on their servers using standard Usenet software. We announced ClariNet in June of 1989 and started shipping in September of that year. Now we're coming up on year number seven, and it's worked out pretty well.

***DB:** What about the name — are you musically inclined?*

It's just a name... I suppose I should make up a story, huh? The truth is, I don't play the clarinet, although I do have some musical background. We were looking for a name that would signify networking and would just sound good. I guess there was some vague thought that there were newspapers out there named after horns, and this would be another one.
***DB:** Who are your customers, and how many are there?*

BT: Our readers are a broad base of people all over the world—there's about 1.5 million people who have subscriptions paid for. The people who actually pay are our sites, and there are three major types of those. There are ISPs, like Netcom for example, who buy a subscription for their customer base; there are corporations who buy for a department or the whole company; and then there are universities which provide it to all the students and staff.
We sell site licenses, and we think that's the right thing to do. A lot of people are still struggling trying to say "Here's my great Web site - pay me $5 a month and you can come to it," just as BBSs try to sell users one by one. But it turns out most Internet things are bought on a site basis.

***DB:** People criticize the Web for being a one-way medium. Do you see any convergence of Usenet and the Web to solve that problem?*

BT: Well actually, yes. We recently announced a step in that direction by starting to do a set of newsgroups which are entirely HTML-based. You can click on a Web page to read an article, and there are graphics and so on imbedded in the articles, so that's one bridge right there. We are doing one-to-many publishing, but we think this might encourage more use of that hybrid sort of stuff.

One thing that seems not to be happening is the use of those tools you can buy that let you have a bulletin board on your Web site. They don't seem to be very heavily used so far, because people still like the big national things. The Web was never meant for serial publishing, and it doesn't let you easily find the things that are new since you last visited, but certainly conferencing is not dead.

***DB:** What do you think of the concept of paid Usenet moderators?*

BT: It's been tried before ... obviously the people who do that type of job on AOL or Compuserve get paid, although many of them work for slave wages. There are a few who do quite well, but I think most of them don't. There are people who've suggested trying to make a system where moderators on Usenet would be paid, but no one's made a success of it yet.

***DB:** How do you think Usenet has changed since you first dabbled in it?*

BT: When I started it was a place where many people read almost every newsgroup, and you knew the people who were contributing. There are some serious problems that have come up recently, such as people who are being deliberately abusive. In the past, there were always trouble makers, but they were honest troublemakers, as opposed to people who were being deliberately disruptive.

I don't know what their motive was, but somebody recently tried to disrupt a newsgroup by posting 12,000 random messages to it. Not advertising anything, just random words. When people start doing things that don't seem to have any motive other than to be destructive, that is a characteristic change that could interfere with what otherwise is the world's most successful anarchy.

People who have studied civilizations say that anarchies tend to break down after they reach about 100 people, but Usenet got up to about a million people before that started to happen, so it's obviously something very different. The fact that people couldn't take axes to each other probably helped, and that there was no physical property involved, but we made a cooperative community of a million people, and there were no locks on the doors. There's talk all the time about designing a system to put locks on the doors, but nothing's happened yet.

***DB:** Is the signal-to-noise problem related to the fact that there are so many clueless new users online at any given point?*

BT: There certainly is a lot of that, but I actually identify the problem in a way that not a lot of people think of it – that there's too much good stuff. That's a problem that people didn't anticipate. I don't have time to read fifty informed opinions on a topic, even if they're really good. Even if you get rid of the hundred

idiots, you still have a problem with the fifty smart people. This applies to the Web just as much as anything else. You can go to Yahoo and get fifty pages on a topic, but there's no way you can read them all. That's the real problem with having too many people... it's not signal to noise, it's signal!

DB: *How do you use the Net on a personal level?*

BT: I do a lot of e-mail correspondence with friends, and that's actually the best way to reach me.

In terms of practical applications, it's certainly nice to be able to find software and bits of code out there with a quick search. In spite of doing commerce over the Net for some time, I just made my first purchase over the Net this past April — TurboTax from Intuit. The Net solves a huge inventory problem for them by offering some very seasonal products online.

I like to surf around Web pages like everyone else, and I still read some newsgroups, but I must admit the count goes down over time. I also like the way the search engines can make you seem incredibly clever. I can be on the phone with someone and make it seem as if I'd always known a person they were talking about, as long as I get good response from AltaVista!

DB: *Tell me where Clarinet is going in the future...*

We're doing a whole bunch of stuff. Adding the HTML format for our newsgroups is part of it, and we're going to use that in order to add stuff to the stories, like links to related items and Web sites. We think that's the answer to the problem I mentioned before, that there's just too much out there. A lot of people would rather have stuff pushed out to them, instead of searching for it. By reading news, people are defining their interests, and that's the time when you can show them something interesting on the Web.

We're going to be expanding some of our news offerings as well, but we want to do things that go beyond just news, so we're going to have a clipping service too. A clipping service is good, but it can only find what you know you're looking for. The role of a newspaper or magazine has always been to not just find what you're looking for, but to tell you what you should have been looking for. So that's one of the roles we're going to take. ◆

Connecting With Brad Templeton

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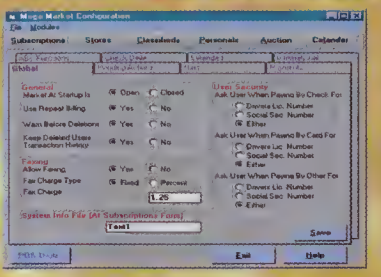

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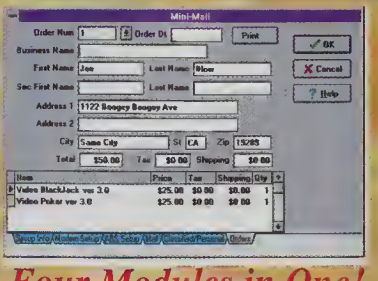

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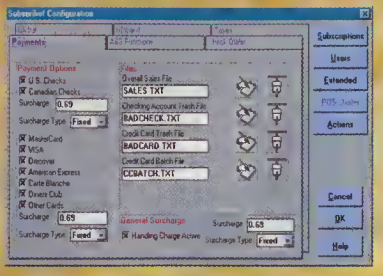

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GOING WIRELESS WITH METRICOM

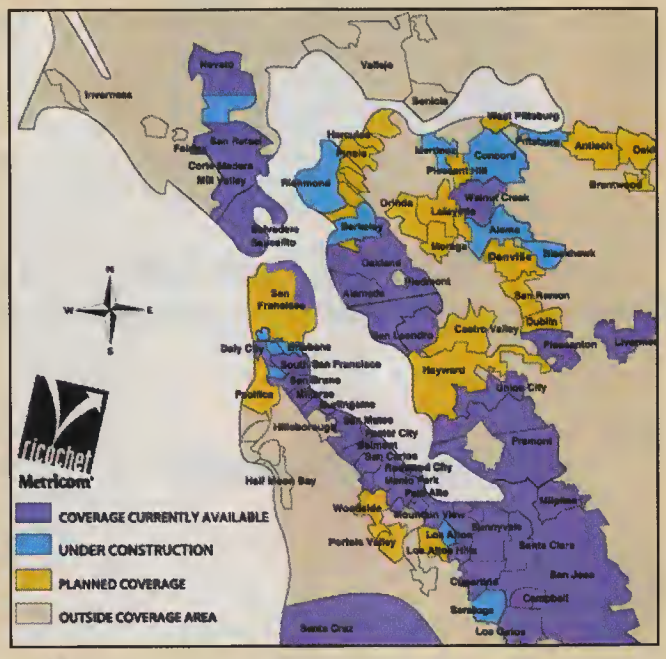
The San Francisco Bay Area is flooded — but not with water. ISPs are as common as pizza joints, and a recent study shows that half of all local phone traffic is modem-based. But there's another wave sweeping over the area, as ***Metricom*** beams the Internet over its spread-spectrum packet radio network to provide wireless access to users of portable computing devices.

Metricom, based in Los Gatos, California, was founded in 1985 and is a leading provider of two-way wireless data services. For a decade, they were best known for selling mobile radio communications to the utility industry, but in 1995 Metricom launched ***Ricochet***, a wireless Internet service with low-cost, high-speed access to the Internet and corporate networks.

Ricochet sends computer data over a network of small low-power radios on utility poles and buildings. It's kind of strange to think that Web pages and Usenet postings may be floating by as you wind your way through city streets, but that's exactly what Metricom's Ricochet service is doing in large portions of the Bay Area and several corporate and college campuses. You can't send e-mail from the beach, but it's entirely possible to get your laptop online while you're waiting for a bus or in a client's lobby — so long as you're within the quarter-mile range of a Ricochet radio transceiver.

Could be just the ticket for sales people, service professionals, or field engineers who need to stay in touch or present up-to-the-minute information to clients. And with the wireless radio modem, there's no need to install another phone line to your home or business, and of course no phone charges to use the service. It's one thing to be cordless, but not having to install the cord in the first place is even better.

Metricom has un-wired most of the Bay Area (see map) and is wiring the Seattle and Washington, D.C. areas now. The company plans to expand Ricochet service into 50 metropolitan areas and 15 of the largest airports in the U.S. within three years. Metricom employs about 150 people, and is a publicly-held company, traded on the NASDAQ exchange. Since 1992, they've raised $75 million in two IPOs and have also attracted the attention of Microsoft co-founder Paul Allen, who has invested in Metricom to the tune of almost $27 million. The Microsoft corporation has also kicked in $6 million to back their efforts, and Jerry Yang, co-founder Yahoo! Inc. has signed on to the Metricom Board of Directors. Nice to have rich friends, eh?



Metricom's Wireless Network In San Francisco

HOW IT WORKS

Richochet customers connect a special wireless modem about the size of a cell phone into the serial port of a laptop or other personal computer. The modems are AT command set compatible and relay signals to radio transceivers mounted on buildings or utility poles, which in turn relay signals to leased telephone lines. From there everything is routed by phone to Metricom's network operations center in Houston, Texas where the connection to the Internet is made.

The company claims that you can expect speeds from 14.4 to 28.8 Kbps, depending on where you are in the network, the applications you are using, and your hardware configuration. The througput can be as high as 40,000 bps, but varies depending on how you are performing various tasks such as file transfers, Telnet sessions, etc. The speed still lags behind an ISDN connection, but it's about the same as the service you'd get from an ISP with a 28.8 line.

Ricochet operates on a spread-spectrum, frequency-hopping system that sends data packets across a mesh network of repeater radios. These Ricochet repeater radios transmit the packets on randomly selected channels throughout the license-free 902-928 MHz band of the radio spectrum. This frequency hopping is what makes the system fairly secure, because it would be very difficult to intercept such a signal, but Ricochet is also working on encryption for corporate needs.

The Ricochet protocol is said to be very robust and tolerant of other computing devices, since it's a technology originally developed by the military for just that purpose. In the event that interference does cause packet loss, Ricochet will retransmit lost packets. Normally this is great, but if you disappear into an elevator while connected to the wireless network, you can put a drag on other users until you're back in range of a transceiver!

Metricom is not required to be licensed by the FCC to use the 900 Mhz band frequencies, but the Ricochet network and products comply with part 15 of the FCC's regulations. This means they should not interfere with other devices sharing the band, such as cordless phones, Industrial, Scientific and Medical (ISM) devices and some ham radio channels. One nice feature is that you can purchase multiple Ricochet wireless modems and extend the reach of the network by operating them in "peer to peer" mode.

A few words of caution — not all conventional-modem applications will work well over the Ricochet wireless service. Telnet-type applications that require an echo for each character do not perform

very well due to the intermittent and inconsistent delays inherent in a packet switched radio network. And the Ricochet modem is not a fax-modem, which means no incoming faxes, and outbound faxing is only possible through an e-mail gateway such as cc:Mail.

PRICING INFORMATION

Ricochet service requires a one time setup fee of **$45.00** for home and small office users, and then **$29.95** a month for Basic Service which gets you unlimited wireless Internet access and a POP3 e-mail account.

The Preferred Service option is an additional **$5.00** a month, and gives you TMA (telephone modem access), the ability to call into services accessible only through telephone numbers. The Elite Service option (another **$10.00** a month) includes TMA, dial-in capability (the ability to retrieve mail from outside the Ricochet service area), and replaces POP3 mail with Lotus cc:Mail (allowing mail encryption, file attachments and outbound faxing). A secondary e-mail account for a family member carries a one time setup fee of **$25**.

Oh, and then there's the modem. There's a **$10.00** a month charge to rent the wireless modem (includes Netscape Navigator software), or you can opt to purchase one for **$299**. So the practical minimum is about **$40** a month, which isn't bad when you take into account that there are no monthly phone charges.

Metricom also offers a University Partners Program, as well as special K-12 and corporate pricing.

Mailto:univ.sfo@metricom.com, **mailto:k12.sfo@metricom.com** or **mailto:corp.sfo@metricom.com**, respectively for more info on these programs.

CONTACTING METRICOM

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980 University Ave.
Los Gatos, CA 95030

888-4NOWIRES
mailto:info@ricochet.net
http://www.metricom.com

Wi-LAN's Hopper - Wireless T1 For ISPs

Wi-LAN, based in Calgary, Alberta, has a product they call the ***Hopper Plus Wireless Modem*** that is well suited for Internet service providers. Hopper is another wireless product that operates in the 902-928 Mhz band and effectively provides a T1 speed connection to the Internet for ISPs — without the monthly leasing charges and expensive T1 terminal equipment (CSUs/DSUs) you need when the phone company is involved.

With the Hopper Plus you pay no phone line charges, and there are no metered fees, so ISPs can save the ongoing monthly T1 cost. It costs about **$7000** (one-time cost) to set up a Hopper system, which is about the same as the cost of routers and installation of a leased T1 line, but an ISP can save thousands per year on monthly T1 service charges.

In addition to saving money on the Internet connection, a Hopper Plus system allows an ISP to offer high-speed wireless access to local customers. Wi-LAN says it is quite possible to get up to 25 users on a wireless connection with throughput of approximately 60Kbps/s. With only 3 users, transmission speeds of approximately 500Kbps/s per user are possible.

Wi-LAN President Dr. Hatim Zaghlow Introduces Richmond, VA Schoolchildren to Wireless Internet Access

Outside of ISPs, the system has other creative uses as well. City traffic tie-ups can get smoothed out with Hopper's pinpoint control at each traffic light. Utility meter-readers can calculate power usage from their vehicles rather than entering each home. And in the hospital, Hopper modems located beside each patient-bed allow nurses to immediately feed and retrieve vital information via central computer. Hopper Plus provides a secure network using three levels of security. The first two levels ensure that no equipment other than another Hopper Plus can intercept and de-scramble a Hopper Plus radio signal. Using a "unique spreading code" algorithm, data transmitted is scrambled by multiplying the data by a unique sequence of bits. They also deliver data packets to the air in irregular bursts that makes it all but impossible for an eavesdropper to acquire and decode the data stream.

The third level of security ensures that only those Hopper Plus radios purchased by one customer can access that customer's network. Hopper units are factory configured with a unique customer access code, so transmissions from one radio can only be received by others with the same code.

Wi-LAN is currently shipping Hopper Plus systems to both Canada and the U.S. For more information contact Wi-LAN Inc. at **(800)258-6876** (Canada & USA) or **(403) 273-9133**, or send **mailto:zaghloul@wi-lan.com**. Wi-LAN is also on the Web at **http://www.wi-lan.com/wilan** ◆

A DOMAIN BY ANY OTHER NAME

by David Hakala and Jack Rickard

The topic on everyone's lips this autumn revolves around the domain name issue. The debate is barely rational. Companies identify closely with their names and it can be a pretty emotional issue when you tell one they can't have their own name.

Mark Kosters, Principal Investigator and Senior Engineer, surrounded by the InterNIC Registration Services' "Mother of All Name Servers" at the Virginia headquarters of Network Solutions, Inc.

The problem with names is that they are designed to be unique to about the distance a man can ride a horse in a day. This goes to the names of individuals, as well as the names of companies. Even a common name such as David Jones, though perhaps given to some minor confusion, is unique enough in most small towns to serve its purpose.

But with a scant 4% of the U.S. population actually on the Internet today, there are probably enough David Joneses abounding to hold their own convention — in a football stadium. Similarly, there just isn't a problem with having several hundred AAA Towing Services — approximately one per metropolitan area larger than a football game. They typically only offer towing services in a 50 mile radius at best.

On an Internet that relies on names as a means to connect, and operates globally, a bit of a problem arises. There can only be ONE aaa_towing.com. And no matter how much you argue the merits of your being THE appropriate AAA Towing, there STILL can only be ONE in the .com domain.

This has led to an almost endless series of disputes over the "ownership" of domain names. At some point, we have confused trademarks with domain names in a legal sense, and as a result, the Internet will never be the same. The original first-come-first-serve gambit was an excellent one. But U.S. Federal judges, ignorant of the technical limitations or even what they were ruling on, have already jumped into network administration as a hobby and/or sideline. The latest is a lawsuit brought by a breakfast pastry manufacturer against the YAHOO search engine. It would seem that YA-HOO breakfast cakes takes exception to the YAHOO search engine's use of YAHOO.COM. It will probably never end.

How did we get into such a mess? Actually, the domain name system as envisioned, designed, and implemented foresaw this problem and even addressed it. The Internet grew up with some simple top-level-domains (TLD's) including .edu, .gov, .mil, .org and the little used (at that time) .com. But the powers that be in 1988 envisioned domain names with a geographic component – i. e., boardwatch.littleton.co.us — as the way to develop domain name space. After much haranguing and discussion, it was decided to grandfather the "legacy" domains and gradually move toward the more descriptive geographic domains.

This actually would have put us back on horseback for our day's ride. BOARDWATCH.LITTLETON.CO.US would be sufficiently differentiated from BOARDWATCH.LAKEWOOD .CO.US to work. There might have been some minor disputes, but with easy and fairly obvious solutions.

The geographic domain name structure actually caught on quite strongly — everywhere but in the United States. The rest of the world adopted it rather readily — largely because they lacked the legacy of earlier/older entities. But the Internet really didn't have a centralized authority capable of denying NEW uses of .com, .edu, .gov, etc. And two things doomed geographic domain names — status and mnemonic utility.

By allowing existing organizations to continue using ibm.com, for example, we really set up a pecking order. If you had a short .com domain name, you must be big, and you must have been early on the Internet. You were cool, and everyone else was less cool. But newbies found out shortly that they could still register newbie.com and no one could/would stop them. So we had an easily visible status hierarchy with a built in mechanism for defeating it. No question how that is going to come out every time.

Second, the geography-based naming system was not easily usable — or at least not AS usable. It is quite easy to remember BOARDWATCH.COM but much more difficult to remember BOARDWATCH.LITTLETON.CO.US. You have to recall what city we are in, what state we are in, etc. So BOARDWATCH.COM won — quite simply hands-down.

For a brief and shining period, this actually worked quite well. Today, if you know a company's name, you can probably just make up/guess their domain name and hit it within a couple of tries. We delight in this around the office. Need a driver for a Paradise VGA card? Let's try paradise.com. Does KODAK have a web site? Of course they do — kodak.com. So the Internet has developed into a remarkable directory allowing you to locate companies almost instantly. You can then use their web sites to find out their telephone number, their mailing address, etc. The Web IS a virtual directory.

This has worked so well, that the geographic names have now broken down overseas. The fastest growing domain TLD in Europe now is .com. And even in countries that retain the geographic system, we are seeing oddities such as innet.com.br in Brazil. They are simply ingesting the .COM system WITHIN the geographic system.

But the trademark/identity issues have grown to serious proportions. And they don't promise improvement as the 4% on the Internet grows to 10% or, dare we contemplate, 30% of the population. Names/identity will become a serious crisis.

The immediate solution proposed by many of our readers and indeed throughout the Net is to have more top-level-domains. In addition to .COM, let's have .MAG and .PUB, and .ISP, and .AUTO and why not even longer ones like .MEDICINE and .HOSPITAL. In this way, we could have a BOARDWATCH. MAG instead of BOARDWATCH.COM or even a BOARDWATCH.MAGAZINE. Or why not just a .BOARDWATCH domain?

We actually don't think this is a solution. Like the 800 number fiasco, adding 888 simply caused everyone with useful 800-FLOWERS numbers to demand the 888-FLOWERS version as well. We don't think this will work any differently, and we've already paid to be included in BOARDWATCH.WEB and will probably have to do a dozen or so others as well. If you were violating someone's trademark with .COM, why WOULDN'T you also be violating it at .WEB? This hasn't solved any problem, only moved the problem.

But it is all the rage this minute and it appears it is quite going to happen. The tangible results will be that life will become much more complicated on the Internet, and the period when we could actually remember a company location on the network will probably be viewed with fond nostalgia by early spring. There is too much energy in greed, panic, and fear over this issue for the concept of alternate top-level-domains NOT to catch on like wildfire.

Boardwatch Magazine registered a new domain name in August: **boardwatch.web**. Of course, there is no ".web" Top-Level Domain (TLD), and there may never be one. But Chris Ambler, author of the venerable ***FSUUCP*** program that brought Internet e-mail and newsgroups to bulletin board systems, is betting there will be a **.web** TLD, and we kicked in **$25** to encourage him.

Ambler is one of several entrepreneurs who hope to cash in on a new market: domain name registration services. Yes, competition is coming to this most fundamental Internet service, for several reasons:

A) There's money to be made in registering domain names, thanks to Network Solutions, Inc. (NSI), the private firm contracted by NSFnet to issue and administer most of the world's Internet domains. In September, 1995, NSI began charging **$50** per year for domain names, creating a market now estimated to be worth $25 million a year and growing at a rate of over 10 percent per month.

B) "Good" domain names are becoming scarce, especially in the **.com** TLD which is now by far the largest and the most in demand. In fact, a booming business in domain name brokerage has sprung up. Microsoft purchased the domain name **slate.com** for **$10,000**. C|net bid **$50,000** for **television.com** — and got turned down! Many organizations can't get the domain names they want for love nor money. New TLDs will supposedly allow multiple entities to peacefully coexist with virtually identical domain names, i. e., **television.com**, **television.biz**, **television.web**, **television.xxx**....

C) Almost everyone is unhappy with NSI's handling of disputes between trademark holders and domain name holders, but no one is quite sure how such disputes *should* be handled. It is hoped that several dozen domain name registries competing in a Darwinian fashion will somehow evolve at least one policy that keeps the peace.

Partly, it's about money. The lure of all those registration dollars — and the opportunity to sell the domain name **television.???** dozens of times — makes the competing-registries proposal very popular among small entrepreneurs like Ambler. But it's also about ego; every domain name holder wants to be "at the top" of the domain name system, not just one of half a million second-level domains in **.com**. Large corporations and little people with big egos are also enthusiastic about expanding TLD name space.

Trademark disputes will not miraculously vanish with the addition of new TLDs. "There is no body of law that speaks to DNS' role in intellectual property law," notes Don Telage, president of NSI. "None of the proposals (for adding new TLDs) addresses that issue." Nobody ever sued over the right to **.com** — you're as likely to be sued over a domain name no matter what its TLD is.

Still, competing registries and at least 50 new TLDs will start to appear soon, probably by the time you read this. The ***Internet Assigned Numbers Authority*** (IANA) — which has overall responsibility for the DNS — is rapidly finalizing plans to license competing registries. The most recently published version of the proposal, compiled by IANA head Jon Postel in July, can be found at **http://www.alternic.net/draft_postel.html** and at Internet Draft archives worldwide.

If adopted, "draft-postel" would replace the Request For Comments which defines the existing Domain Name System (see **http://www.alternic.net/rfcs/1500/rfc1591.txt.html**).

HOW MOST DOMAIN NAMES ARE REGISTERED NOW

About 69 percent of all new domain names are registered through one U. S. company: Network Solutions, Inc. (NSI) of Herndon, Virginia. That may surprise people who thought that NSI had a 100% monopoly on domain names. NSI actually registers names in "only" five Top Level Domains: **.com**, **.net**, **.org**, **.edu** and **.gov**. However, the **.com** TLD is by far the most popular, hosting over 58 percent of all the domain names in the world. There were only 55,679 domain names in the **.com** TLD in July, 1995, and 12,687 in July, 1994. This July there are almost 285,000 **.com** domain names!

10 LARGEST TOP-LEVEL DOMAINS BY DOMAIN NAMES REGISTERED

TLD	DOMAIN NAMES	TLD NAME
com	284,737	Commercial
uk	23,264	United Kingdom
org	22,352	Organizations
net	15,676	Networks
de	14,745	Germany
jp	12,295	Japan
edu	11,463	Educational
au	9,995	Australia
ca	9,847	Canada
us	9,687	United States

(source: Net Wizards' July 1996 Domain Survey, **http://www.nw.com**)

Obviously, **.com** is where the action is – and that means you need NSI. You'll find their domain name registration service at **http://rs.internic.net/rs-internic.html** along with FAQs (Frequently Asked Questions and answers), forms to fill out online, policy statements and even a forms-based query for checking the status of your application for a domain name. Just follow instructions and shortly you'll get an e-mail message confirming your domain name registration.

A couple of months later you'll receive an e-mail invoice for $100 – the fee for the first two years' worth of DNS service. Thereafter, you'll be billed $50 per year to keep your domain name accessible to everyone else on the Internet.

NSI has the process down pretty pat. According to Internet Business Manager David Graves, NSI "processes over 75 percent of (domain name) applications within 24 hours, and virtually all of the rest within one week."

It may take you longer than that to find a domain name you want to have in the **.com** TLD. The whois database at **http://rs.internic.net/cgi-bin/whois** will tell you whether a given domain name is already taken and if so, by whom. Maybe you'll want to call the "owner" and buy the right to use your favorite domain name. Maybe you'll just do the sensible thing and choose an untaken name.

Or maybe you'll sue the current "owner" of what's obviously YOUR name! He probably doesn't have very deep pockets, so your lawyer may advise you to sue NSI for ALLOWING some stranger to steal "your" name. That's called "contributory (trademark) infringement," according to Graves, and it's the fear of such liability that led NSI to implement its infamous Domain Name Dispute Policy. You can read the current version (effective September 9, 1996) at **http://rs.internic.net/domain-info/internic-domain-6.html** and we strongly urge you to do so.

Basically, you can register any domain name that isn't already taken. By doing so, you warrant that you have the legal right to use that name – and you may have every reason to believe that you do. But if someone else comes to NSI with a national-

ly registered trademark (from any nation), you have a bigger problem than he does. You may well lose your domain name and the market identity you've built up on the Internet.

You get to keep your domain name if you can prove that you registered the name prior to either a) the date the complainant first used the trademark or b) the effective date of the complainant's trademark registration. NSI simply checks the paperwork; there's nothing for you to do.

If that doesn't get you off the hook, NSI will ask you to produce proof of your own registered trademark "which must be identical to the second-level domain name registered" to you. We would have to produce proof of registration for "boardwatch," not "boardwatch.com." The registration must predate the complaint filed against you.

If you can't produce that defense, NSI kindly offers to give you 90 days in which to change your domain name. They'll assign a new name and maintain both the old and new names in the DNS for 90 days to facilitate an orderly transition.

You have thirty days in which to clear your right to your domain name or accept NSI's offer of a new name. If you refuse that offer, or just do nothing, NSI will place the disputed domain name on "hold" status – no one will be able to use it. That's the part that has really irked domain name holders. The general feeling is that NSI should do nothing at all unless and until it is ordered to do so by a court of competent jurisdiction.

But as Graves explained contributory infringement, "ignoring a complaint is not a viable option." If NSI is presented with plausible evidence of infringement, and takes no action even though it could, then a court could later find contributory infringement liability against NSI. Depending on the economic damages determined by the court, that could be a very large hunk of change. So NSI must put pressure on a domain name holder to prove his right to the name or give it up – or take it from him, in the last resort.

However – and this is the big change in the new dispute policy — if either party to a dispute files suit against the other in "any court of competent jurisdiction in the United States," NSI will NOT place the disputed domain name on "hold" or will reactivate one that is currently on hold for use by the party who registered the domain name. NSI will then "deposit control of the domain name into the registry of the court" – effectively getting itself off the hook for contributory infringement. The court may immediately decide to put the name on "hold," leave it active in your name until the case is settled, or do whatever it wants with the domain name. NSI will "just follow orders" issued by the court.

HOW NEW DOMAINS AND REGISTRIES WILL BE IMPLEMENTED

Postel's draft is some 26 pages long. We summarize the proposed new order below.

The draft proposes creation of up to 150 new "international" Top-Level Domains or iTLDs over the next five years. Currently there are three iTLDs — **.com**, **.net** and **.org**, all delgated by IANA to the InterNIC.

The 239 national TLDs such as **.us** (United States), **.fr** (France), **.ca** (Canada), etc., will remain as they are. So will the U. S. government TLDs **.mil** and **.gov**, the relatively quiescent **.edu** domain, the infrastructure TLDs such as **.arpa** that are used by IANA, the InterNIC and other groups for behind-the-scenes management, and the **.int** domain. The last is an "INTernational" TLD created specifically for use of organizations established by international treaties, e. g., **nato.int**.

New domain name registries would be licensed by IANA to operate new iTLDs. These registries would be analogous to NSI. They would be responsible for dispensing second-level domain names within their TLDs – and would be allowed to charge whatever they want. The registries would also be responsible for the management and legal liabilities of their TLD(s). A single organization would be allowed to manage up to three new TLDs. "The intent," according to the draft, "is similar to the licensing of radio stations in some countries." Each registry would be granted a five-year license which could be renewed based on a performance review conducted by IANA.

Any "person or ogranization" may apply to run a registry. An IANA committee will review applicants based on their ability to provide essential access to their registration databases, operational resources including Internet infrastructure, helpdesk facilties, etc., and demonstration of "sufficient business viability" to convince the committee that the applicant can stay afloat for five years. ("This is not a business plan," stresses the draft, "but some documentation that lends credibility to the applicant's proposal." Heaven forbid we should be so "exclusive" as to require a business plan!)

The approved registries' DNS server(s) would become the authoritative top-level DNS servers for the TLDs those registries manage. The TLD servers' names and IP addresses would be added to the DNS databases maintained by the nine root servers that everyone now uses. That would make each registry's domain names available to everyone else in the world. (See sidebar, "How Domain Names Are Found.")

".MONEY" BECOMES ROOT DOMAIN OF ALL EVIL

Postel's July 8 draft mentions payment of a **$1,000** non-refundable application fee. Successful applicants would also pay **$2,000** per year plus two percent of their annual revenues to the Internet Society. The uses to which this money would be put include any legal expenses the IANA, IETF, ISOC and its ad hoc groups might incur, "modest and publicly visible costs of the chartering process," and to pay another registry to operate one that fails.

This flow of money from commercial registries to the nonprofit Internet Society raises some concerns, noted in Postel's draft. First, the ISOC could lose its tax-exempt status if it delves too deeply into profitmaking ventures. Second, ISOC might become a codefendant in lawsuits against its licensed agents, the registries, should its pockets become deep enough to attract lawyers' keen noses.

As of this writing, the fees have been deleted from Postel's draft as an IANA committee works on it. We don't know if there will be any similar fees in the final version. But it seems likely; ISOC will probably *need* a legal defense fund.

Already, the mere mention of money has caused trouble within IANA. Shortly after Postel's July 8 draft was published, Chris Ambler jumped the gun and paid his $1,000 application fee to Bill Manning, an IANA committee leader. The result was an uproar about "impropriety" and "unfairness," and Ambler's check was returned.

Manning says he discovered the check and application in a sealed envelope that Ambler apparently slipped into a mound of comment forms at the end of a meeting, and returned it "immediately." Other sources, including Ambler, say the check wasn't returned until several days later, after the fuss started. In any case, Manning is "no longer with IANA."

It seems inevitable that an organization which has never attempted to make money in the past should have a few problems handling cash the first time it tries.

NEW APPEALS PROCESS

Adjudicating complaints about registries' handling of their duties is another new role suggested for the Internet Society, IANA, the Internet Domain Name Board (IDNB) and sundry ad hoc committees. Wisely, they don't plan to tackle the tough issues of intellectual property rights, trademark infringements or charging and billing practices. These things are "left to market forces, arbitration and the courts."

Whatever else a customer might want to complain about must first be addressed to the registry, which is required to specify an appeals process and commit to a response time in its application to IANA.

If the registry can't satisfy the customer, the latter may appeal to IANA. IANA, in turn, may pass the buck to the IDNB. IANA is supposed to consider only "technical" issues — things like failure to provide DNS on a given day.

The IETF is the next level of appeal, though it only hears "nontrivial" appeals of "claims that the procedure (for appeals) was not followed" by the registry or IANA.

If the IETF rules that procedure was followed, there's still one more chance — appeal the fairness of the procedure itself to the Internet Society.

All of the appeals process is supposed to happen via e-mail.

IANA is moving with sudden alacrity on the twin issues of expanding TLD name space and opening Internet registry services to competition. Both issues have been hotly but unproductively debated for over a year. Perhaps IANA was goosed by the startup of an NSI "clone" last March.

ALTERNIC: A "RENEGADE" DOMAIN NAME REGISTRY

alternic.nic

One competing registry has already opened for business without the blessing of IANA. Using its domain name servers, you can connect to domain names with new TLDs such as **.nic**, **.tour** and **.xxx**, as well as the "real" virtual world.

Perhaps this is just what the Information Highway needs — ***A Towing Company***! Yes, that's really the name of the company behind **http://www.alternic.net**, the "renegade" domain registry that went online in March, 1996. Founder Eugene Kashpureff is no longer in the "vehicle towing and recovery" business, but he still promises to "treat you better and charge you less."

Alternic sells domain names for just **$24** a year. You can get a TLD all to yourself for **$98** which covers the first two years. Alternic takes a hands-off policy on name disputes, advising name registrants that they are not granted any "legal rights" to their domain names and directing disputants to settle their differences "through normal legal means."

A self-described "webslinger and bitsmith," Kashpureff was a hardware support manager for AT&T Microsystems in the early 80s. His towing career began with a software design project for Seattle Central Towing in 1985. He then ran a "wooden puzzle manufacturing and retail operation" for two years before entering the towing business full time, beginning as a truck operator and working his way up. By January, 1994, he owned his own towing company. A no-nonsense kinda guy, Kashpureff named it "A Towing Company."

"Eugene Kashpureff, founder of Alternic and A Towing Company"

Kashpureff naturally took to the Internet, establishing a home page for his company at **http://www.httpd.com/ekashp**, creating online tow operator safety courses for the Washington Tow Truck Association (see **http://towing.com**) and crafting the YelloWWWeb Pages at **http://www.yellowwweb.com**.

Having deserted one monopoly in his unconventional career, Kashpureff was not pleased with NSI's dominance of domain

name registration services. He found many kindred spirits, including Karl Denninger of MCSNet, a leading Chicago area ISP. Encouraged by the support he found for alternative registries, Kashpureff launched an "experimental" DNS service and domain name registry, dubbed ***Alternic***. It runs on a Pentium 166 under Linux, using the operating system's builtin DNS server and some home-brewed registration software.

In addition to all the TLDs officially recognized by IANA, Alternic also resolves domain names containing new TLDs — essentially, any TLD that a customer wants to buy that isn't already taken. We could start our own ".bwatch" TLD; IBM's homepage could be at www.ibm.ibm.

Business has been slow but interesting thusfar. Some of the Alternic TLDs and their owners include:

NEW TOP-LEVEL DOMAINS REGISTERED IN ALTERNIC

TLD(s)	OWNER	WEB SITE –
.agn,.earth	American Global Network	http://www.agn.net
.idg	International Data Group	http://www.idg.com
.auto, .web	Image Online Design	http://www.iodesign.com
.biz,.corp,.usa	MCS Net	http://www.mcs.net
.alt,.post,.live	Memra Software	http://www.memra.com
.eur	NetNames	http://www.netnames.com
.sea	Seanet.com	http://www.seanet.com
.higgs, .news	Simon Higgs	http://www.higgs.com
.art,.ent,.sex,.sky	Skyscape Communications	http://www.fastlane.ca
.fcn	Free Community Network	http://www.fcn.net
.mall	UNETY Net	http://www.unety.com
.usvi	US Virgin Islands Net	http://www.usvi.net
.wir, .wired	WIRED Magazine	http://www.hotwired.com
.wtv	World TeleVirtual Network	http://www.wtv.net

Ego and greed are the evident motives in all but one of these TLD registrations. Some folks — like WIRED, IDG and USVI — just want to be "on top" with their own TLDs. Others, like Ambler, are obviously trying to corner some "hot" TLDs with a view towards raking in the registration fees for domain names under them. Still others are pursuing both ambitions.

The one altruistic exception to this rather venal pattern is the ***Toronto Free Community Network***. This volunteer group is setting itself up as the champion of free community networks in its area. FCN will provide free dedicated Internet connections and other services to organizations that provide free dial-up or public terminal Internet access to end users. By starting the **.fcn** Alternic domain, they'll be able to provide free domain names to their constituent ISPs, who would otherwise have to pay the InterNIC its yearly tithe. For more information on FCN's progress, send **mailto:toronto-net-request@idirect.com** with the word "subscribe" in the body of your message.

OK, so there are all these new domains to explore. How do you get to them? Alternic's renegade name servers are not listed in the InterNIC's root name servers, so the Alternic domains just don't exist as far as most of the Internet world is concerned. Enter any domain name that ends with one of Alternic's new TLDs in your browser's Location window and you'll get a "no DNS entry" error.

Some recent articles on Alternic have erroneously claimed that you can't reach the "real" Internet if you switch to the Alternic realm. But you *can* have Alternic and the rest of the Internet too. We've done it, and so can you.

IMPLEMENTING ALTERNIC DNS ON UN*X-BASED SERVERS

Whether you're an end user or an ISP, it's surprisingly simple to replace the official DNS service with Alternic's (or any other alternative DNS). We'll describe the procedure for UN*X-based ISPs, since they're the most common. DNS servers and tools for Windows NT are available at **http://www.microsoft.com/ntserver/tools/dns.htm** and alternate DNS can be implemented on them using similar procedures.

There are two ways to replace the InterNIC's DNS service with Alternic's:

Replace your current named cache file. In your DNS server's **named.boot** file there should be a line that reads **cache . <filename>** where **filename** is a text file containing a list of the root name servers and their IP addresses. This file tells your DNS server where to look for answers it doesn't have. (See sidebar, "How Domain Names Are Found.") Most system administrators regularly update their named cache files from the InterNIC ftp site (**ftp://rs.internic.net/domain/named.root**).

Alternic provides an alternative named cache file at **ftp://ftp.alternet.nic/db.cache** which contains its own list of name servers. All you need to do is download the **db.cache** file to the same directory that contains your InterNIC **named.root** file, then either edit the "cache" statement to read **cache . db.cache** or copy **db.cache** over your original named cache file — after making a backup copy of the original, just in case.

ALTERNIC ROOT NAME SERVERS (08/28/96)

aragorn.alternic.net	204.94.42.2	(Bremerton, WA, USA)
root-ns.mcs.net	192.160.127.86	(Chicago, IL, USA)
eek.httpd.com	204.182.105.150	(Seattle, WA, USA)
simba.agn.net	160.79.1.3	(Detroit, MI, USA)
mx.alternic.net	204.94.42.1	(Bremerton, WA, USA)
cthulu.mcs.net	192.160.127.126	(Chicago, IL, USA)

Replace your cache with a root zone file. First, obtain the file **ftp://ftp.alternic.net/db.root** which contains the addresses of all 200-plus InterNIC, country code and Alternic TLD servers. Then *replace* the "cache" line in your named.boot file with **primary . db.root** and you're all set.

You should update the **db.root** or **db.cache** file on a regular basis. Alternic provides a PERL script at **http://www.alternic.net/ednsget.html** that does the job.

END USERS CAN USE ALTERNATE DNS TOO

End users typically get their DNS service from their Internet Service Providers. Persuading your ISP to switch to Alternic's DNS will probably be a tough sell; if the experimental DNS doesn't work, ALL of his customers will come down on him with both feet. But you can try Alternic's DNS on just your own PC, without any cooperation from your ISP.

We've used Alternic's DNS for several days while researching this report, which took us to servers in Japan, South Africa and hundreds of points in between. We also switched back and forth between Alternic and the InterNIC's DNS to compare their performance. Alternic never failed to find a server that we could find using the InterNIC's DNS.

End users need only change one setting in their desktop TCP/IP clients to use Alternic instead of their normal DNS services. Windows 95 users most likely use the operating system's builtin networking clients. Windows 3.x users generally use a Winsock stack such as Trumpet Winsock.

Windows 3.x users with Trumpet Winsock have it easy. Just open the **TCPMAN.EXE** program (usually the icon labeled "Trumpet" in your program group) and click on **File -> Setup**. Change the Name Server IP address to one of the Alternic Root Servers listed in the sidebar above, click on OK and you're done. You'll need to restart Trumpet before the change takes effect. This is so simple it's boring.

Windows 95 users have a lot more fun, especially if they use both a LAN connection and a dial-up connection to the Internet. Let's tackle them one at a time, starting with the LAN connection.

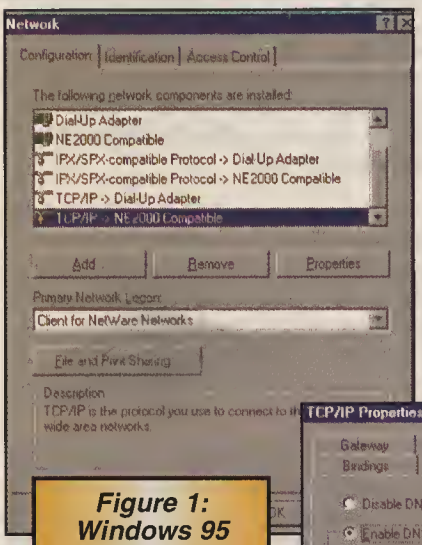


Figure 1: Windows 95 Network Configuration

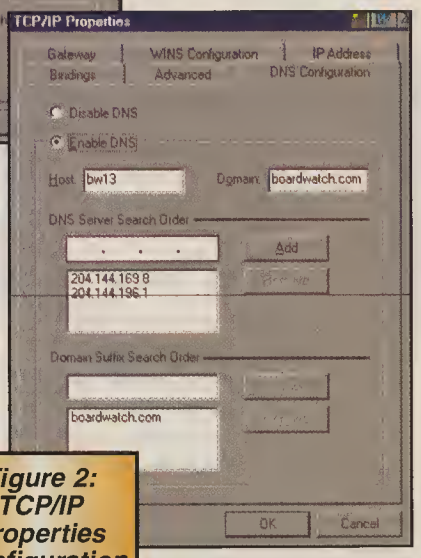


Figure 2: TCP/IP Properties Configuration

Open the Start menu, then click on **Settings -> Control Panel** and finally open the Network icon. The Configuration window should appear, containing a list of all your installed network components. See Figure 1. Highlight the **TCP/IP -> <your network card>** item and click on the **Properties** button below the list box to bring up the **TCP/IP Properties Configuration** window shown in Figure 2.

Click on the **DNS Configuration** tab. Enter the Alternic Root Server IP address you want to use (from the list above). Then click on the **Add** button. Close up all these windows by repeatedly clicking OK. Restart the machine to put the changes in effect. Your LAN connection to the Internet will now use Alternic's DNS service.

Dial-up users should open the My Computer icon and then the Dial Up Networking folder. Within that folder, highlight – but do not open — the icon of the Dial Up Networking client that you use to connect to the Internet. Pull down the **File** menu on the Dial Up Networking window's menu bar and click on **Properties**. Click on the **Server Type** button in the Properties window, then click on the **TCP/IP Settings** button on the next screen. You should end up with a screen similar to Figure 3. Click the radio button next to **Specify Name Server Addresses**. Change the **Primary DNS** IP address to one of the Alternic Root Name Servers. Click OK three times to back out. Close the Dial Up Networking window and My Computer.

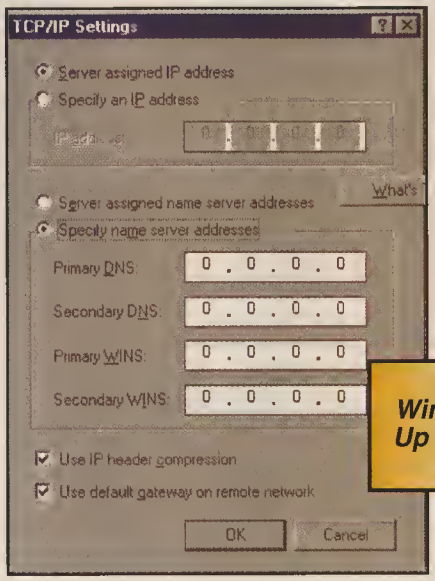


Figure 3: Windows 95 Dial Up Client TCP/IP Settings

Once you're set up to use Alternic DNS, try a few Web sites that you normally visit. Send yourself some e-mail. You should find that things work normally. Then check out some of these unheard-of URLS:

nic.web	Home of the **.web** TLD & Chris Ambler
www.carib.tour	Carribean Tourism & Business Guide
www.bvi.mall	British Virgin Islands Guide
www.virgin.mall	U. S. Virgin Islands Guide
www.alternic.nic	Alternic.net by another name
www.internic.nic	The InterNIC via Alternic

It's rather eerie to actually get a Web page after entering one of these URLs. One's "net sense" expects a "no DNS entry" error message instead. But they work.

DOES ALTERNIC STAND A CHANCE?

Alternic has about as much chance of replacing the InterNIC's root servers as the Libertarian Party has against Clinton this fall. Most system administrators are unlikely to replace their cache or root zone files with Alternic's. End users would crater Alternic's name servers if millions of them directly used the Alternic root name servers. (The same would happen if all of us hit the InterNIC's root servers.) So why bother?

Kashpureff says, "It wasn't only to goose IANA into action ... but ALTERNIC.NET has been very effective in doing just that. ALTERNIC.NET has more purpose than just new TLDs, it's a Network Information Center. See **http://www.alternic.net/rfcs**." There we found one of the best organized collections of Internet RFCs around. Alternic's **http://www.alternic.net/infolink.html** page contains many links to mailing lists, other Internet registries (including InterNIC) and many essays on TLDs and alternate registries.

What becomes of Alternic if/when IANA opens the InterNIC root servers to competing registries? "If draft-postel ever does go through, we'll probably be the first in line, and will advise our clients to line up with us," says Kashpureff. His object is to compete not with IANA, but with NSI and all other registries, on an equal footing. Given equal access to the root servers, multiple registries will be able to compete on price and service.

Alternic is not the only or even the first alternative to the InterNIC's domain name registry. In fact, there are so many name registries that at least one enterprise – Netnames at **http://www.netnames.com** — specializes in handling the complex process of registering domain names in multiple registries. Let's take a look at the pros and cons of one such registry, the **.us** domain.

THE .US DOMAIN – EXAMPLE OF A FREE NATIONAL REGISTRY

As mentioned early in this article, there are 239 national registries. Each is assigned a TLD based on the two-character country codes defined by the International Standards Organization document known as ISO-3166. These registries are entirely distinct from the InterNIC's – they're not operated by NSI but by organizations sanctioned by each represented country. Each has its own registration policies; most do not charge any fees for domain names, but many require that a domain name applicant be based in the desired country or at least have a significant physical presence there.

The United States national registry uses the **.us** TLD. It is operated by The US Domain Registry at the Information Sciences Institute of the University of Southern California (USC-ISI) in Marina del Rey, California, under the authority of IANA. See **http://www.isi.edu/in-notes/usdnr**. Jon Postel, whose draft proposal for alternate registries seems likely to be adopted by IANA, heads the US Domain Registry.

Any computer physically present in the United States can be registered in the US Domain. Some computers in other countries may be registered if they are used in conjunction with U. S. projects. There is no charge for **.us** domain names.

The US Domain employs a hierarchical domain/sub-domain architecture that is primarily based on geography. For example, *Boardwatch* has a domain name of **boardwatch.littleton.co.us** – and we could not have gotten just **boardwatch.us**. The city and state are NOT optional under the US Domain naming system.

The US Domain's naming system is rather convoluted and replete with exceptions. At the "state" level ("co" in our example), there are also second-level domains immediately under **.us** for federal and state government agencies (.fed.us and .state.us) and other "affinity" sub-domains.

At the "locality" level it gets even more interesting. A locality may be a city, i. e., "littleton," or a county name. Between a locality name and the penultimate hostname there may be another sub-domain — **.ci** for city governments or **.co** for county governments. Then there are local affinity groups, leading to domain names like **clinton-hs.acsd.k12.tn.us**.

An IP address might be easier to remember, and that's why the US Domain has not caught on among commercial entities. But note that the US Domain does force greater "depth" in domain names than does the **.com** domain, making it possible for many entities named "boardwatch" to coexist. We can be **boardwatch.littleton.co.us** while a hypothetical gambling newsletter could be **boardwatch.altantic-city .nj.us** and a lumber security outfit might be **boardwatch.chicago.il.us**.

TOWARDS A USEFUL DIRECTORY SERVICE

The Internet desperately needs a way to look up the IP addresses of things when you're not exactly sure what they're named. Search engines fill this role as well as anything — or as poorly, depending on your expectations. The Domain Name System is being used as a directory service; domain names are chosen for their memorability and association with real-world entities. But there's a conflict between memorability and association. The shorter the name, the easier it is to recall, but the less specific it can be. The nice, short domain names that everyone covets are associated with *too many* real-world entities.

We need a way to let *Boardwatch* Magazine and Boardwatch Lumber Security Co. (and any number of other "Boardwatches") coexist in a single directory. All should be able to have "Boardwatch" as part of their directory entries, but we must be able to tell which is which. If there are multiple Boardwatch Magazines, we need more information to pick the right one: location, extended description, ownership, etc. Furthermore, once we have found the "Boardwatch" we want, we must be able to return to it again and again with ease.

LDAP - Lightweight Directory Access Protocol - is one candidate for the directory service of the future. LDAP is an Internet standard protocol defined in RFCs 1777 (**ftp://ds.internic.net/rfc/rfc1777.txt**) and 1778 (**ftp://ds.internic.net/rfc/rfc1778.txt**). It allows simple text-string searches of directories that are based on X.500, another open standard described in RFC 1308 (**ftp://ds.internic.net/rfc/rfc1308.txt**). X.500 is a hideously complex specification for a universal directory service that can be implemented across many platforms. It's used in mainframe shops, Novell Netware LANs, proprietary e-mail systems such as MCI Mail and other environments.

LDAP is a subset of X.500's DAP (Directory Access Protocol) that runs over TCP, is much easier to implement and requires fewer system resources than DAP. Think of LDAP as X.500 for the Internet. Netscape, Novell, IBM and over 40 other heavy hitters have endorsed LDAP and X.500 as the preferred directory service for Internet and Intranet applications. You'll find the latest information on LDAP and pointers to other resources at Critical Angle's ***LDAP World***™ site: **http://www.critical-angle.com/ldapworld** .

Using LDAP (or something yet more specialized) to communicate with X.500 directories, it would be possible to search for all entities whose descriptions contain "magazine," names contain "boardwatch" and of the type "e-mail address." Such a search might retrieve the e-mail addresses of all of our employees, plus those of Boardwatch the gamblers' newsletter and any others out there. We could also limit the search to Web sites, the United States or other categories.

Let's have a Web browser that accommodates such searches. Let it also be smart enough to file the *IP numbers* of Web, ftp, e-mail and other types of sites. Let it furthermore store adequate descriptions of all addresses in appropriate folders, i. e., "e-mail addresses," "Web sites," "ftp sites," etc. We could also have e-mail clients that look up only e-mail addresses, which would simplify user input requirements and limit the scope of searches. Same for ftp and other types of clients.

This is barely the outline of a brave new world in which domain names — and their attendant lawsuits — are unnecessary. We'll leave the rest up to the IETF.

Whatever domain name registrants, registries and IANA do, it's going to be quite a confusing year for all of us. ◆

HOW DOMAIN NA

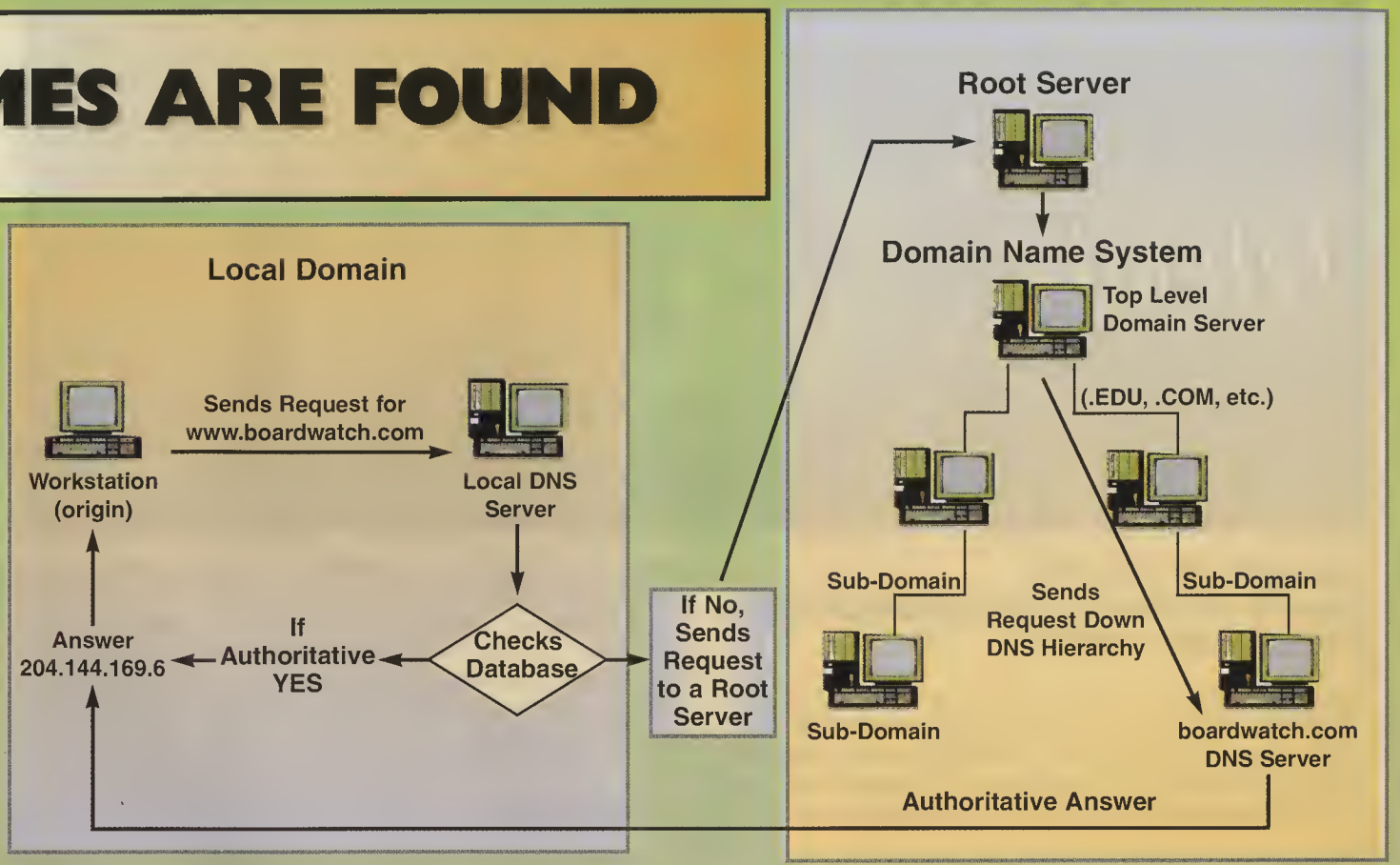
A workstation (at far left in diagram) sends the domain name for which it needs an IP address to its primary DNS server. That DNS server checks its local database for the requested domain name; if the full domain name is found, its IP address is returned to the workstation. If the primary DNS server is not "authoritative" for the requested domain name, it refers the query to the root server it is configured to use for such queries.

The root server refers the query to a Top-Level Domain name server, e. g., the **.com** server. The TLD server contains a list of sub-domains (e. g., esoft.com) and their DNS servers' IP addresses. It refers the query to the IP address of the sub-domain DNS server that is supposed to contain authoritative DNS data for that sub-domain. The query may pass down the DNS hierarchy through several sub-domains and corresponding DNS servers.

Eventually, if all goes well, the query reaches a DNS server that contains authoritative information on the specific machine identified by the domain name, e. g., **www.boardwatch.com**. It then returns the requested IP address to the workstation.

But in practice, the query may be bumped from one DNS server to another until the requesting workstation times out – that is, assumes there *is* no DNS entry anywhere for that domain name. This happens all the time, because system administrators move DNS servers from one machine to another, delegate DNS responsibility to new servers, and otherwise move things around without updating DNS servers higher in the hierarchy. Thus, some domain names may never be found!

MES ARE FOUND

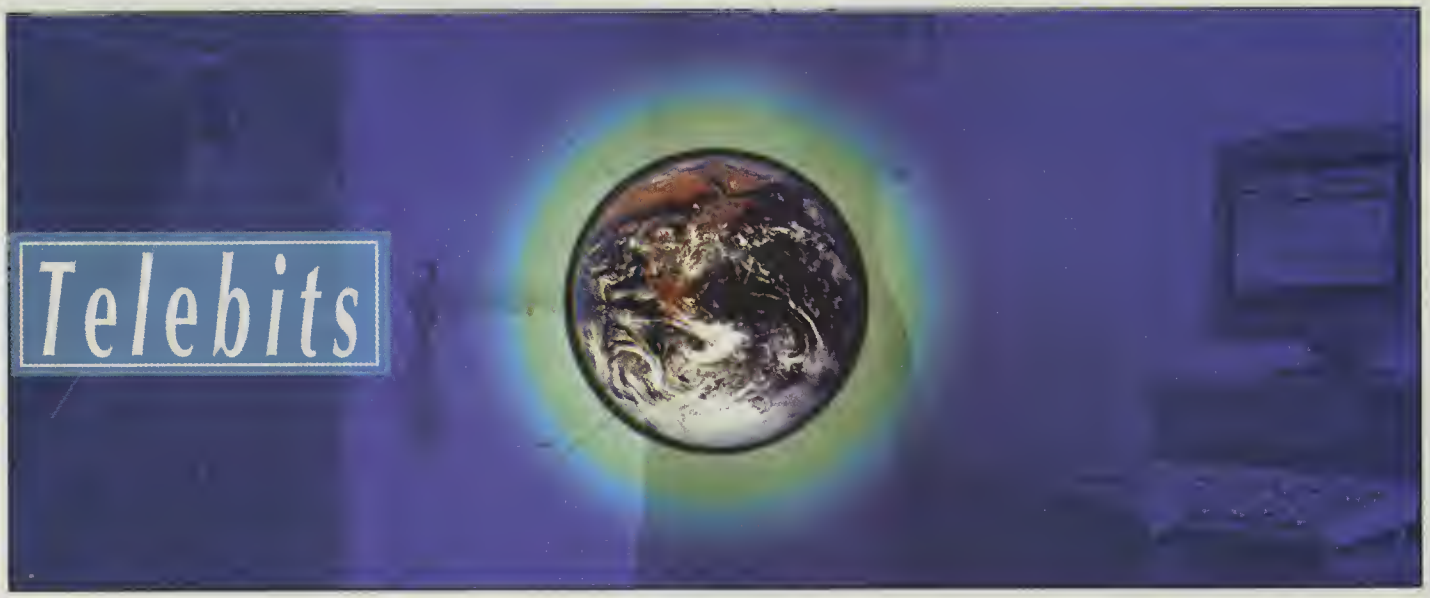


INTERNIC ROOT NAME SERVERS

a.root-servers.net	198.41.0.4	(Herndon, VA)
b.root-servers.net	128.9.0.107	(Marina del Rey, CA)
c.root-servers.net	192.33.4.12	(Herndon, VA)
d.root-servers.net	128.8.10.90	(College Park, MD)
e.root-servers.net	192.203.230.10	(Moffett Field, CA)
f.root-servers.net	192.5.5.241	(Palo Alto, CA)
g.root-servers.net	192.112.36.4	(Chantilly, VA)
h.root-servers.net	128.63.2.53	(Aberdeen Proving Ground, MD)
i.root-servers.net	192.36.148.17	(Stockholm, Sweden)

Note: Network Solutions, Inc., operates only the first root server in the list above. The others are effectively mirror sites operated by other organizations, including PSINet, the University of Southern California, Vixie Enterprises (funded by the Internet Software Consortium), various U. S. military bases and Comedia Information AB in Sweden.

The international Top-Level Domain servers (one each for `.com`, `.edu`, `.net`, etc.) are also mirrored at these InterNIC hosts. Thus, a query from a root server to an iTLD server doesn't have far to travel. Queries to national TLD servers (e. g., `.us` or `.se`) must be referred to servers in other countries, adding a few milliseconds to response times.



WINNERS OF THE 1996 JOHN C. DVORAK TELECOMMUNICATIONS EXCELLENCE AWARDS

The fifth annual John C. Dvorak Telecommunications Excellence Awards were delivered at ONE ISPCON in August. The ceremony honors individuals and organizations which have significantly contributed to the growth and enjoyment of the online industry. This year's honorees included:

PEOPLE

Tim Berners-Lee – Lifetime Achievement – inventor of the World Wide Web, the first Web browser and the first Web server, presently Director of the World Wide Web Consortium which continually develops the HTML standard, and Principal Research Scientist at the Massachusetts Institute of Technology Laboratory for Computer Science (MIT LCS). **http://www.w3.org/pub/WWW/People/Berners-Lee**

John S. Quarterman – Man of the Year – a seminal figure in long-term measurement of Internet growth and activity. Quarterman's ***Matrix News*** newsletter has helped many an infopreneur gage market sizes, growth rates and trends. His company, Matrix Information and Directory Services, Inc., provides up-to-date Internet activity reports at **http://www.mids.org**

Charles Corbalis – Personal Achievement in Network Engineering – leader of the protocol engineering group which produced IPX, BPX, AXIS and StrataView+, StratCom cofounder Corbalis also edited the LMI protocol specification and was co-inventor of StrataCom's congestion control algorithm. He also lead the development of the world's first frame relay interface for IPX. See **http://www.strata.com**

ORGANIZATIONS

Internet Engineering Task Force (IETF) – Outstanding Volunteer Internet Organization – the unpaid heroes who keep all Internet hosts talking to each other by developing, testing and ultimately sanctioning standard protocols such as ftp, telnet, http and so on. A difficult technical and political job that requires thousands of labor hours, all selflessly donated by members all over the world. Visit **http://www.ietf.org** to learn how they keep things afloat for all of us.

Network Solutions Inc. (NSI) – Outstanding Commercial Internet Organization – the firm which registers and manages Internet domain names in the .COM, .EDU, .ORG, .NET and .GOV top-level domains. That amounts to over 394,000 domain names between August, 1993, and June, 1996. Requests for new domain names surpassed 40,000 in April, 1996. Still, NSI manages to process 75 percent of new registrations within 24 hours, and virtually all registrations are processed within one week. NSI also runs the whois domain lookup service and numerous information services at **http://www.internic.net**

AltaVista, by ***Digital Equipment Corp.*** – Outstanding Online Navigation Tool – widely regarded as the fastest and most comprehensive search engine, with over 30 million indexed Web pages from 275,600 servers plus 3 million articles from 14,000 Usenet newsgroups. AltaVista is accessed over 16 million times per day. DEC recently released commercial versions of its AltaVista indexing software for use on intranets and individual Web sites. See **http://www.altavista.digital.com**

Electric Library, by ***Infonautics Corp.*** – Outstanding Online Research Tool – thousands of elementary and high school students, teachers and parents use this inexpensive, sophisticated yet easy to use research database. Over 150 full-text newspapers, 800 magazines, two newswires, encyclopedia, thesaurus, dictionaries, 18,000 photos, maps, 2,000 classic literary works, television and radio transcripts and more make the Electric Library a comprehensive research service. Visit **http://www.elibrary.com** for a free trial.

ONLINE SERVICES

The Los Angeles Dodgers Web Site – Outstanding Special Interest Web Site – in-depth content and technical dazzle make the Dodgers site, designed by Only Multimedia Network, Inc., an inspiration to every Webmaster. Plugins can be downloaded for QuickTime virtual reality, EchoSpeech streaming audio and StreamWorks audio/video broadcasts. Current game results, ticket information, TV/radio broadcast schedule, player information and historical data are available, along with peripheral Dodger doings such as poetry readings by Vin Scully, Tommy Lasorda and Rick Monday. See **http://www.dodgers.com**

The Sydney Morning Herald – Outstanding Online Wire Service – daily news and features distributed in every con-

ceivable format: Web pages, e-mail, streaming audio and video. This Australian newspaper is an outstanding showcase of Internet publishing's opportunities. See **http://www.smh.com.au**

The Chicago Sun Times – Outstanding Online Newspaper – a world-renowned model of how to efficiently build a newspaper Web site. Parallel Web servers are optimized for fast or slow connections. The servers automatically identify each user's browser and display pages specifically written for Netscape, Internet Explorer, Mosaic, AOL, etc. Disciplined use of graphics increases the system's responsiveness without sacrificing colorful effects. See **http://www.suntimes.com**

SOFTWARE

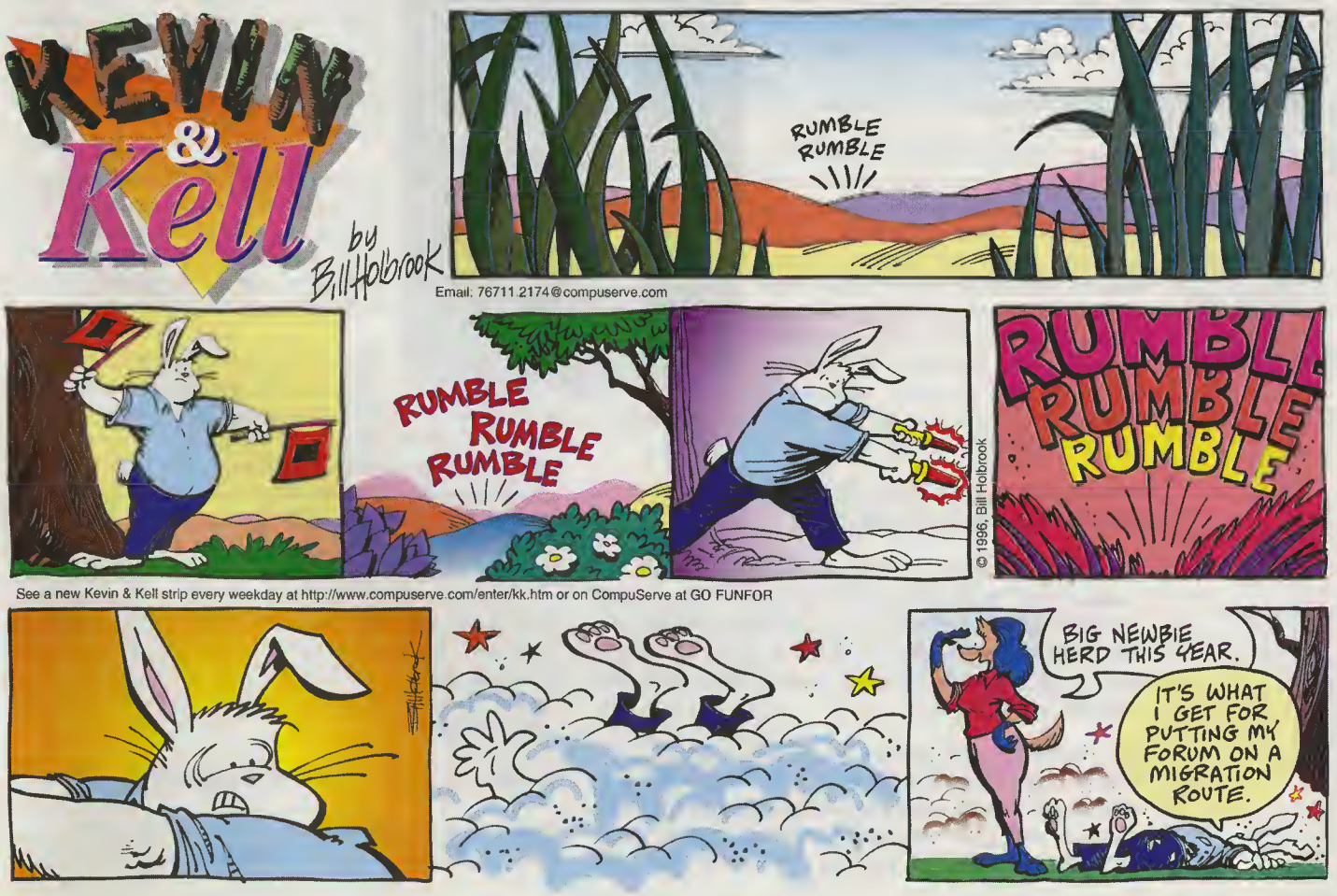
RealAudio by ***Progressive Networks*** – Outstanding Internet Innovation – the first streaming audio client/server software system, RealAudio has become a de facto standard on the Internet. The freeware player allows users to listen to an audio recording as the digital file is being retrieved; over six million RealAudio players have been distributed. Thousands of RealAudio server sites provide music, talk show and news broadcasts. See **http://www.realaudio.com**

Net Nanny by ***Net Nanny Ltd.*** – Outstanding Special Purpose Application – a leader in "parental control" software, Net Nanny helped avert legal restrictions on Internet content by giving responsible adults desktop-level control over what children may see or do on the Net. In addition to filtering content to age-appropriate levels, Net Nanny can prevent users from transmitting sensitive personal data, downloading classes of files, running unlicensed programs and spending too much time at the keyboard. See **http://www.netnanny.com/netnanny**

Lotus InterNotes Publisher by ***Lotus Development Corp./IBM*** – Outstanding Web Management Tool – facilitates creation of corporate Web sites by multiple authors in multiple locations. InterNotes creates HTML pages from Lotus Notes Views and allows Web servers such as Netscape and Mosaic to access documents stored in Notes databases. Web documents are automatically updated as their Notes counterparts are changed. The product also merges Usenet newsgroup articles with Notes discussion databases, allowing users to employ Notes' full text search, threaded discussions and multiple indexed views capabilities. See **http://www.internotes.com**

Adobe Acrobat 3.0 by ***Adobe Systems, Inc.*** – Outstanding Online Document Publishing Advancement – a de facto Internet document standard rivaling HTML for many applications, Acrobat creates and displays Portable Document Format (PDF) files with exact fidelity to the originals across all major computer platforms. Documents can also include live hyperlinks to other pages in the same document, in other documents on the same server, or to documents on remote servers. Acrobat's unique "page at a time" display allows selective retrieval of a portion of a large document, conserving bandwidth. See **http://www.adobe.com**

Additional information about the Dvorak Awards, including past years' winners, can be found at **http://www.citivu.com/dvorak** ◆



CYBERWORLD MONITOR

Frank X. Sowa

CLINTON'S SECRET WAR AGAINST "CYBER-TERRORISTS"

Frank X. Sowa is president of The Xavier Group, an international consultancy providing strategic planning, forecasting, training, and development of business and communications systems for organizations since 1981. As a certified software consultant for Softarc's First Class, and a reseller for other companies, he configures customized BBS systems for organizations, complete with "regular content updates." Sowa is also founder and sysop of SEED.NET (412) 487-5449, "the online incubator" for small businesses, a seamless BBS-to-Internet (PPP) provider, with business start-up assistance and seed capital available online.
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Earlier this year, President Clinton used the executive privileges of his office to bypass Congressional scrutiny, and to initiate a secret "war" against the threat of what the administration calls "cyber-terrorists — hackers, crackers, organized crime figures, drug dealers, foreign military operatives, information warfare operatives, foreign spies, terrorists, violent domestic militia members, members of hate groups, criminals, cons and cheats, gamblers, copyright and patent infringers, child pornographers, and others."

The definition of "national security" is ominously changing under President Clinton. Only during the Civil Defense mania of World War II has the definition of "national security" included so many domestic threats. Post-war Presidents viewed "national security" issues as a response to foreign threats. Clinton seems to see civil and criminal, foreign and domestic, military intelligence, and law-enforcement threats as the same.

Clinton seems to see civil and criminal, foreign and domestic, military intelligence, and law-enforcement threats as the same.

By using the ploy of "protecting the Internet from potential 'cyber-threats,'" the President has begun the regulatory process that makes the free-operating Internet in the U.S. a component of "national security." This approach allows the federal government to perform functions outside the normal controls of Congressional Oversight and Judicial interpretation of the law. The Executive Branch can therefore get around politically volatile issues like the privacy of American citizens, and the rights afforded by the U.S. Constitution.

THE EXECUTIVE ORDER ON CRITICAL INFRASTRUCTURE PROTECTION

On July 15, President Clinton, by Executive Order, created the Infrastructure Protection Task Force ("IPTF") within the Department of Justice, chaired by the Federal Bureau of Investigation under the direct control of Attorney General Janet Reno and FBI Director Louis Freeh.

The IPTF's mission is to act as an interim interagency "Information Corps," until one can be created by law. This order clearly makes the Department of Justice (through the FBI) the lead organization protecting our national security against "cyber-threats," and allows military, intelligence and law-enforcement agencies to work together in violation of the Constitution to indiscriminately monitor the activities of U.S. and foreign citizens and businesses who use the Internet.

The IPTF's function is to coordinate the domestic counter-intelligence activities of the Treasury Department, the Department of Justice, the Department of Defense, the Department of Commerce, the Department of Transportation, the Department of Energy, the Central Intelligence Agency, the National Security Agency, the Federal Emergency Management Agency (FEMA), all Internet-related organizations (CERT, NSF, InterNIC), as well as "private sector initiatives."

The President ordered that "all executive departments and agencies shall cooperate with the IPTF and provide assistance, information, and advice as the IPTF may request; and shall share with the IPTF information about threats and warning of attacks, and about actual attacks on critical infrastructures, to the extent permitted by law."

Clinton explained, "Certain national infrastructures are so vital that their incapacity or destruction would have a debilitating impact on the defense or economic security of the United States."

This new "Information Corps" will take actions to detect, prevent, halt, or confine an attack, to recover and restore service, and to initiate effective responses to attack. It will issue threat and warning notices in the event advance information is obtained about a threat; and provide interagency training and education on methods of reducing vulnerabilities and responding to attacks on critical infrastructures.

The IPTF will also conduct after-action analysis to determine possible future threats, targets, or methods of attack; and coordinate with the local, state, federal and military law enforcement authorities during or after an attack.

FBI'S RESOURCES VASTLY EXTENDED

"The Critical Infrastructure Protection" Order augments the even older Presidential Decision Directive

39, which was issued in the summer of 1995 and sets out the administration's counterterrorism policy. It places all "terrorist combatting" activities within the United States under the coordination of the Department of Justice (through the FBI). Executive Order 12333, which has been the guiding instrument for the intelligence community since 1981, designates the FBI as the lead agency for counterintelligence matters.

The July 15 Executive Order establishes a Commission on Critical Infrastructure Protection (CCIP) which reports to the President through a committee consisting of the Secretaries of Treasury, Defense, Commerce, Transportation, and Energy; the Attorney General; the Directors of Central Intelligence, Office of Management and Budget, and FEMA; and the Assistants to the President and Vice President for National Security Affairs. CCIP is directed by a Steering Committee made up of four appointees of the President.

This new Commission is to "assess the scope and nature of the vulnerabilities of, and threats to, critical infrastructures; determine what legal and policy issues are raised by efforts to protect critical infrastructures and assess how these issues should be addressed; recommend a comprehensive national policy and implementation strategy for protecting critical infrastructures from physical and cyber threats and assuring their continued operation; propose any statutory or regulatory changes that may be necessary."

While the Department of Justice will manage the IPTF and the CCIP, the Department of Defense will finance its operation and infrastructure. The DoD will also provide analysis, report creation, background support, and other "materials" and services, further skewing the lines between law-enforcement intelligence and military intelligence activities.

AIR FORCE TO FIGHT CYBER-CRIME

In fact, the Air Force's Office of Special Investigations, or OSI, has now been called into the fight against computer-related crimes. OSI will employ a new million-dollar, state-of-the-art computer lab at Bolling Air Force Base in Washington, D.C., to sniff out cybercriminals and evidence.

The new facility -- a 2,500-square-foot office next to the OSI headquarters building -- houses two sections: a computer- forensics lab to retrieve and analyze computer evidence of crimes, and a computer-intrusion lab to investigate cases of hackers breaking into government and private computer systems.

Howard Schmidt, director of OSI's computer crimes investigations division, told the ***Air Force Times*** (06-24-96 Issue) that the facility was built by the Air Force to respond "to a rising tide of computer-related crimes including fraud, child pornography, online cheating on promotion tests and hacking into official computer networks."

"In the past two years, there's been a marked increase [in computer-related crimes] because of the explosion in the use of computers, not only in the Air Force but in society as a whole," Schmidt told ***Air Force Times***.

"Some people trade secrets over the Internet on how to break into government systems, how to protect their computer systems from federal investigators and how to build weapons and engage in terrorism," Schmidt said.

"Because the field of computer crime is so new, few people in law enforcement are expert enough in computer systems to catch computer crooks. In addition, few computer-crime statistics are available, and little case law exists to guide prosecutors and investigators in procedures for gathering and handling computer-criminal evidence. Because of that, OSI has become a pathfinder in developing techniques and procedures for investigating and prosecuting computer-related crimes," Schmidt said.

"The facility is the only computer-crime lab of its kind in the Defense Department and one of few that exist in the world, he said. Within the federal government, only the FBI has a similar computer-crime lab," said Schmidt, an 11-year veteran of the police department in Chandler, Ariz. OSI has 20 highly trained computer experts working at the lab and another 20 working at field detachments around the world. It will get an additional 17 people next year, Schmidt said. All the computer-crime investigators in the labs are hand-picked for their expertise.

"This is a brand new discipline," Schmidt said. "This is not taught in tech school."

JUSTICE DEPARTMENT TAKES AIM AT CYBER-TERROR

According to Jamie S. Gorelick, U.S. Deputy Attorney General, "Our most immediate concern right now is the terrorist threat. As our society becomes more and more dependent on the information superhighway, we must expand our focus beyond the traditional 'physical' attacks by terrorists that we have encountered in the past, and to anticipate and protect against cyber-attacks that could cause as great, if not greater, impact as a well-placed bomb. It's not hard to imagine how terrorists could use cyber-tools to wreak massive havoc in this country."

"In my view, we really have two choices," Gorelick said at a recent speech at the Air Force Academy. "We can begin now, jointly, to try to come up with solutions to some of the difficult issues raised by the growth of the information infrastructure in a rational, measured, and prudent way. Or we can wait until a crisis occurs, until some cyber-catastrophe suddenly crystallizes these issues in the public's mind and leads to an outcry and a call for immediate government response. But, if history teaches us anything, it is exactly this sort of crisis mode, when the government is pressured to respond to some recent outrage, that we are most likely to overreact and enact bad policy."

FBI SEEKS EXPANDED WIRETAPPING

On August 1, FBI Director Freeh told a Senate Intelligence Committee that, "Americans have been experiencing an increasing war against them by terrorists and terrorist-supported activities." Americans, he said, "are clearly under attack and we are the prime targets for this kind of terrorism."

Freeh told the Committee that the U.S. has never faced a greater threat to its security than it faces today. He said that just about "anyone with a computer and a modem can become a potential terrorist" by reading things on the Internet, by using the Internet for illegal pursuits, by stealing copyrighted and protected materials, by spying for foreign concerns, and by hacking into computers and destroying vital and critical data.

He used the example of an Argentine man who broke into Harvard's computers to make his point on how wiretaps could be used by federal cybersleuths. Using a court-ordered wiretap on the computer of Harvard's Faculty of Arts and Sciences facility during the last two months of 1995, resulted

in the filing of a criminal complaint against 21-year-old Julio Cesar Ardita of Buenos Aires.

A wiretap order, typically employed to monitor telephone conversations of organized crime and drug suspects, was used to trace and identify the illegal intruder while preserving the confidentiality of legitimate communications. The intruder was identified by using a specially configured monitoring computer that conducted the complex searches needed to isolate his activities.

In this case, the international hacker invaded the Harvard computer through a broadly accessible modem bank and the Internet. He stole a series of accounts and passwords. Using these stolen accounts, Ardita gained unauthorized access to computers at various U.S. military sites across the country, including the Navy Research Laboratory, NASA's Jet Propulsion Laboratory and Ames Research Center, the Los Alamos National Laboratory and the Naval Command Control and Ocean Surveil-lance Center. He also tried repeatedly but unsuccessfully to enter the Army Research Laboratory computer system.

U.S. Attorney Donald K. Stern, of the DoJ said, "This is a case of cyber-sleuthing, a glimpse of what computer crime fighting will look like in the coming years. We have made enormous strides in developing the investigative tools to track down individuals who misuse these vital computer networks."

CYBER-TERRORIST POLICY'S THREE COMPONENTS

The new government policies to thwart cyber-terrorists focus on three components, according to Gorelick:

— "identifying those "critical national infrastructures" of government and the private sector that, if attacked, would result in the greatest harm to society, on a regional or national scale - telecommunications; electrical power systems; transportation; water supply systems; emergency services (including medical, police and fire and rescue services); and continuity of government and government operations."

— "identifying the scope and sources of the threat. This will require a joint effort by the defense, intelligence, and law enforcement communities, combining their data and doing joint analyses."

— "organizing an Information Corps to address the problem - combining the efforts of the DoD, the FBI, the CIA and the NSA - to develop national policy, coordinating with other agencies, and with industry on developing solutions."

CONGRESSIONAL ACTION IMMINENT

If Congress agrees to make Internet policy a "national security" issue when it passes the final versions of new anti- terrorist laws in early 1997, the ongoing operations to monitor, regulate and control the Internet can be legally shrouded in secrecy and managed by executive orders rather than by Congressional and public votes.

Internet users need to get involved. Your rights in cyberspace are at risk. Contact the White House, the Department of Justice, Government Agencies, Congress and the political parties via their Web Sites and let them know how you feel. Call your Senator and Congressman. Tell them that regulating the Internet should not be carried out in secrecy under the shrouds of "national security." ◆

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DATA VALIDATION

by Steve Graves

(JavaScript code and comments by Peter Aitken)

Steve Graves is the founder of ***Technical News Service Inc.*** *(T-N-S) and editor of* ***SysNews.Com-*** The Journal of Online Products and Services. His online magazine for sysops and webmaster, includes news articles, editorials, reviews, software guides, and software libraries. As a full time software reviewer, Steve installs, runs, and maintains the BBS and Internet software he reviews. Steve lives and works in Cheverly, Md., about a half mile from Washington, D.C. with his son Brendan, age 10, and his wife, Mary. He authored the ***20 minute Chess Master***, one of the first interactive computer books. Steve holds commercial instrument, and instructor pilot certificates and enjoys reading, computers (some days), magic and music. Steve can be reached at **mailto:editor@sysnews.com, http://www.sysnews.com** or **(301) 773-8899** *voice* (10a.m. to 6p.m.EST M-F)

As web pages become more interactive, it becomes progressively more important that we provide ways of validating user input. Data collection and transmission on the Web is usually done through forms. The user fills in the blanks and uses the client to submit the information. The collected information is then sent to the server. A CGI on the server validates the information, processes the request, and sends a reply back to the client.

The method just described is accomplished through server side validation. Verification takes place on the host computer - the computer that hosts your web pages. The problem with server side validation is four-fold:

1. Server data validation demands CPU cycles for each piece of information processed.
2. Server side validation wastes bandwidth because corrections between client and server must be transmitted.
3. Performance suffers because data first goes to the server and then back to the client before the user discovers he has made an input error.
4. The HTML author must have access to the CGI directory to write validation scripts.

Happily, JavaScripts can easily verify user input. Since the JavaScript validations are processed on the client side of the transaction, server overhead is reduced, bandwidth is conserved, actual and perceived performance is improved, and HTML authors don't need direct access to the CGI directory to validate user input into forms. The last item is especially useful to folks whose pages are hosted on someone else's server.

SANTA'S THREE EVENTS

Data verification depends on three JavaScript events. **OnBlur** and **onChange** verify information as it is entered. Using onBlur and onChange provides error feedback as soon as focus is removed. However, users could simply bypass blank text objects that require data. This could result in incomplete data. The **onSubmit** event verifies the entire form at once, after the user submits it. But **onSubmit** only returns one error message at a time. The user would then have to fix the error, resubmit, fix the next error, resubmit, etc. We'll see how to use all three events to verify data as painlessly and accurately as possible.

FOUR OBJECTS

Your verification targets will most often be the **Text** and **Textarea** objects. You can verify data in text objects by:

- Disallowing blank objects. (Zip code blank must be completed)
- Defining number of allowed characters. (Zip codes entries must contain 5 characters)
- Defining acceptable characters. (Zip codes must contain digits only)
- Defining format specifications. [telephone number must match the mask (xxx) xxx-xxxx]
- Defining a range of permissible numeric values. (Year of birth must be less than 1976)

You can also verify the **select** object by ensuring that the user made a selection from a list. Checked objects can be checked to ensure that check boxes are checked. (Does the previous qualify as a new tongue twister? ☺, In simple speak, you can verify that one or more **Checked** objects are selected.) We aren't concerned with radio and password objects because they, like Californians, are self-validating.

Book of the Month

JavaScript and VBScript are presented side-by-side in a new Coriolis publication, ***Web Developer's Guide to JavaScript and VBScript*** by Peter Aitken. Aitken, a neurobiologist with Duke University, has written an accessible volume with several clear cut examples. The **$40** publication includes a CD-ROM with plug-in JavaScript and VBScripts — including this month's data validation examples. Unrelated to the title but also included are several tools for the web master; HTML editors and the like. As usual with most of these CD compilations, there's not much included you can't get off the Net. However, I did find first rate digits.zip, a useful collection of digits for use in clocks, counters, and marquees. Novice and intermediate web masters and script writers will probably find this book useful. Advanced users should probably take a pass. Order from Coriolis Group Books, 7339 E. Acoma Drive, Suite 7, Scottsdale, AZ 85260 USA **(602) 483-0192** You can also preview a chapter of this title online at the SysNews.Com website at **http://www.sysnews.com/books.htm.**◆

Java Script of the Month

Each month I will pick and analyze a JavaScript that meets three criteria. 1. It must demonstrate JavaScript's power and flexibility. 2. It must be freely available to Webmasters. 3. The application must be unique, practicable, cool, or otherwise of value to the online community. If you have written such a script or know of one, please e-mail Steve Graves at **mailto:editor@sysnews.com**.

CLIENT-SIDE FORM DATA VALIDATION EXAMPLES

```
<HTML><HEAD><script>function textLength(buf, max, min)
                {
                //Returns true if the length of the text in buf
                //is between max and min. Returns false otherwise

                if (buf.length <= max && buf.length >= min)
                                return true

                else

                return false
                }
function isZipcode(val)


  {
  /* Returns true if val is a 5 digit ZIP code or a 9 digit ZIP code in the format xxxxx-xxxx.
  Returns false otherwise. */

                var len
                if (val.length == 5)
                                len = 5
                else if (val.length == 10)
                                len = 10
                else
                  return false
                var test = "0123456789"

                //First 5 characters must all be digits.

                for (var i = 0; i < 5; i++)
                                {
                                if (test.indexOf(val.charAt(i)) < 0)
                                return false
                                }

                //If a 5 digit ZIP we're done.
                if (len == 5)
                                return true

                //The sixth character must be "-".
                if (val.charAt(5) != '-')
                                return false
                //The last 4 characters must be digits.

  for (var i = 6; i < 10; i++)
                                {
                                if (test.indexOf(val.charAt(i)) < 0)
                                                return false
                                }
                return true
}

function isPhonenumber(val)
  {
  /*Returns true if val is a phone number in the format xxx-xxx-xxxx. Returns false
  otherwise. */

                if (val.length != 12)
  return false
  //Check first three chars. Since no area codes start with zero the eval of the first three
  chars must be >= 100.

  if (eval(val.substring(0,3)) < 100)
                                return false

                //The 4th character should be a "-"
if (val.charAt(3) != "-")
  return false

  //The 5th thru 7th characters should evaluate to a number >= 100.
  if (eval(val.substring(4,7)) < 100)
  return false

  //The 8th character should be a "-".

  if (val.charAt(7) != "-")
    return false

  /*The last 4 characters are tricky because we cannot assume there is not one or more
  leading zeros. Instead we see if each of the 4 characters is present is a test string
  consisting of the ten digits. */
  var test = "0123456789"
  for (var i = 8; i < 12; i++)
    if (test.indexOf(val.charAt(i)) == -1)
      return false

  //All tests passed, so...

  return true
  }
function isBetween(val, limit1, limit2)
  {

/* Returns true if val is between limit1 and limt2, or equal to either. Returns false otherwise. */

  var max = (limit1 > limit2) ? limit1 : limit2
  var min = (limit1 < limit2) ? limit1 : limit2

  if (val == max || val == min)
    return true
  if (val > min && val < max)
    return true
return false
}

function isNumber(val)
  {
  /* Returns true if val is a number defined as having an optional leading + or -. having at
  most 1 decimal point. otherwise containing only the characters 0-9. */

                var test1 = ".+-0123456789"
                var test2 = ".0123456789"
                var c
                var decimal = false

//The first character can be + - . or a digit.

                c = test1.indexOf(val.charAt(0))

  //Was it a decimal?

                if (c == 0)
                  decimal = true
                else if (c < 1)
                  return false

                //Remaining characters can be only . or a digit, but only one decimal.

                for (var i = 1; i < val.length; i++)
                                {
                                //alert(val.charAt(i))
                                c = test2.indexOf(val.charAt(i))
                                //alert(c)
                                if (c < 0)
                                                return false
                                else
                                                if (c == 0)
                                                                {
                                                                if (decimal)          // Second decimal.
                                                                                return false
                                                                else
                                                                                decimal = true
                                                                }
                                }
                return true
}
//*************************************************

function checkPhone(val)
  {
  if (!isPhonenumber(val))
    {
                var msg = "Please enter a phone number in the xxx-xxx-xxxx format"
                alert(msg)
    document.form1.phone.focus()
    }
}
function checkNumber(val)
                {
                if (!isNumber(val))
                                {
                var msg = "A number, puh-leeese!"
                                alert(msg)
                document.form1.number.focus()
```

```
                        }
                }
function checkZip(val)
                {
                if (!isZipcode(val))
                        {
                var msg = "That's not a valid ZIP code, knucklehead!"
                        alert(msg)
  document.form1.zip.focus()
                }
}
function checkBetween(val, max, min)
                {
                if (!isBetween(val, max, min))
                        {var msg = "Did you flunk math? Try again!"
                                alert(msg)
  document.form1.between.focus()
                        }
                }
function checkCuisine()

                {

/*Make sure an item is selected. We do this by going through the options array. If any
option has its selected property true, then an item is selected. */

                var ok = false
                for (var i = 0; i < document.form1.cuisine.length; i++)
                        {
                        if (document.form1.cuisine.options[i].selected)
                                ok = true
                        }
                if (!ok)
                        {
                        var msg = "What's the matter, not hungry? Please select one!"
                        alert(msg)
                        document.form1.cuisine.focus()
}
return ok
                }

function checkLength(text, max, min)
                {
if (!textLength(text, max, min))
                        {
  var msg = "Forget how to count? Try again, please!"
                        alert(msg)
                                document.form1.length.focus()
                                }
                }
</script>
</HEAD>
<BODY>
```

```
<FORM name="form1">

<H2>Data Validation Demo</H2>

Please select your favorite cuisine:

<SELECT name="cuisine" size="4" onBlur="checkCuisine()">

<OPTION value="Italian">Italian
<OPTION value="Chinese">Chinese
<OPTION value="French">French
<OPTION value="Indian">Indian
<OPTION value="Mexican">Mexican
<OPTION value="German">German

</SELECT><P>

Enter your phone number in the format xxx-xxx-xxxx:

<INPUT type="text" name="phone" value="" onBlur="checkPhone(this.value)">
<P>
Enter a number, any number (but numbers only!):

<INPUT type="text" name="number" value="" onBlur="checkNumber(this.value)"><P>

Enter a 5 digit or 9 digit (xxxxx-xxxx) ZIP code:

<INPUT type="text" name="zip" value="" onBlur="checkZip(this.value)"><P>
Enter a value between 10 and 100:

<INPUT type="text" name="between" value="" onBlur="checkBetween(this.value, 10,
100)"><P>

Enter some text between 5 and 10 characters long:
<INPUT type="text" name="length" value="" onBlur="checkLength(this.value, 10,
5)"><P>

</FORM>

<script>
document.form1.cuisine.focus()
</script>
</BODY>
</HTML>
```

GET THE JAVASCRIPT OF THE MONTH BY E-MAIL

You can now get our JavaScript of the Month mailed to you directly via mail list. We just installed Seattle Lab Products' ***SLmailNT***, an internet mail server for Windows NT. (**http://www.seattlelab.com**) Navigate to the JavaScript Center at **http://www.sysnews.com** to join. If you have questions regarding this month's script, please submit them in the JavaSript conference at **http://www.sysnews.com**. You may nominate candidates for JavaScript of the Month by sending **mail to:editor@sysnews.com**. ◆

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FROM:

Planet Connect TV

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If you're an on-line provider you know that the increasing number of suppliers for this market is intense. Planet Connect TV has an important tool to help you stay ahead of the competition while cutting your costs. Our new series of videos will teach your subscribers all about the Internet without using much of your valuable customer support time.

CAN YOU PROFIT FROM ALL THE NEW ON-LINE ROOKIES?

Most of the present BBS/Internet users of today were experienced computers users that had used the major on-line services and BBSES for several years. The challenge of the future is the recruitment of new users that are not experienced in the on-line world (AKA PACKARD BELL TYPES) Many of these folks don't understand downloading, pass words, email, and modems. Do you have time to teach each one of them? You need to spend your time and money on more important jobs. .

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Instead of a couple of tapes that try to quickly cover all the aspects of the Internet, the Planet Connect TV series consists of 6 different tapes that are divided into different areas of interest. Additional tapes will be produced in the future to keep up with changes in Internet technologies.

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We offer two versions of the tapes. The PCTV Standard Series and a PC TV custom order package. The only difference between the two tapes is the packaging, introductions and closings on the tapes. The cases and labels on the custom tapes will be designed to use your logo and information. These will feature custom high quality four color labels and cover art.

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OR TO ORDER
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Notes From The Underground by Wallace Wang

KEYSTROKE MONITORING

Many people believe that personal computers can magically increase any company's productivity, but that's not true. Because if computers really could increase productivity, how come Apple Computer keeps losing money every year?

Although most people know that computers can't increase a company's efficiency by themselves, many corporate executives still believe that they can. So to encourage this pursuit of the unattainable, managers have been wasting their time monitoring the keystrokes of their employees.

KEYSTROKE MONITORING

The simplest keystroke monitoring programs measure the numbers of keys pressed but don't record the exact keys the user typed. The theory behind this type of monitoring is that the more keys people hit per hour, the greater their productivity. Of course, the person hitting the most keys per hour could also be making the most typing mistakes. Or the higher keystroke count could mean that the person spent his lunch hour playing DOOM while everyone else was busy working. Even worse, someone might be using macros to increase their efficiency to get more work done in less time, yet their keystroke count will be much lower than someone who simply types everything over and over again. Simply measuring a worker's productivity based on number of keystrokes is like measuring a politician's effectiveness by the number of hands he shakes.

If you suspect that your boss is monitoring your keystrokes, just randomly tap your keyboard to boost your keystroke count (and your imaginary productivity). Then avoid using macros, style sheets, the cut and paste features, or anything else that can truly increase your productivity but won't increase your keystroke count. By working as inefficiently as possible, you force the keystroke monitoring program to register high keystroke counts, thereby giving the paradoxical illusion of greater efficiency. Maybe you'll get a raise.

Get enough of your co-workers to do the same and within a few weeks, productivity in your office can plummet to new lows while the corporate keystroke counters boast that productivity is soaring to new heights. The less you get done, the more productive your office looks, and the happier everyone will be (until someone finally realizes that the office isn't accomplishing anything at all).

To learn more about keystroke monitoring programs, go to **ftp://boardwatch.com** and try one of the following keystroke monitoring programs for your operating system:

KEYCOPY.ZIP (for MS-DOS)
KEYLOGWN.ZIP (for Windows 3.1)
KEYLOG95.ZIP (for Windows 95)

Unlike the crude keystroke monitoring programs that simply count the number of keystrokes pressed, these programs go one step further and save the actual keystrokes typed to an ASCII file. To use these programs, just run them when the computer boots up (sneak them in the **AUTOEXEC.BAT** file or the **Startup** group of any computer). Then each time someone taps the keyboard, the keystroke monitoring program diligently records the keystroke in a log file. By reviewing this log file at the end of the day, you can see exactly what each computer user typed that day.

For example, running the **KEYLOGWIN** program creates a log file with the date embedded in the file name. If you ran the **KEYLOGWIN** program on August 26, the log file would be called **11420826.96W**. The following excerpt from the log file shows the keystrokes captured while the user typed a letter in Microsoft Word:

Hi, Charlie!
As we discussed on the phone the other day, I have the engineering plans for the DNA structure safely tucked away in my other Internet account. As per our agreement, I'll hand over these plans so you can build your own dinosaurs. In return, I'll get three million dollars to spend anyway[backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace][backspace]wi[backspace][backspace]sent directly to my Swiss bank account. Nice doing business with you. See you in Paris!

In this example, the keystroke monitoring program captured everything the user typed, including backspaces to correct typing errors. By saving this information, the keystroke monitoring program lets you see what the user typed and what the user might have erased.

This next excerpt is even more sinister as it captures the user's CompuServe account data:

ATDT467-9508

cis
70334,3672
fake?password

Wallace Wang is the author of ***CompuServe For Dummies***, ***Procomm Plus for Dummies*** and ***Visual Basic for Dummies*** (all published by IDG Books) as well as ***Surfing The Microsoft Network***, published by Prentice-Hall). He also does stand-up comedy in the San Diego area, and has appeared on A&E's "Evening at the Improv" TV comedy club. He can be reached via e-mail at: **70334.3672@compuserve.com** or **bothekat@aol.com** or **bo_the_cat@msn.com**

This session shows the number the user dialed along with the user's CompuServe ID plus the all-important password ("fake"). While many communications programs such as WinCIM and the Microsoft Network can store a user's password and automatically send it when logging on, many people don't use this feature since it allows anyone with access to their computer to also access their online accounts. For those people who think that typing in your password each time you access your online accounts provides more security, think again.

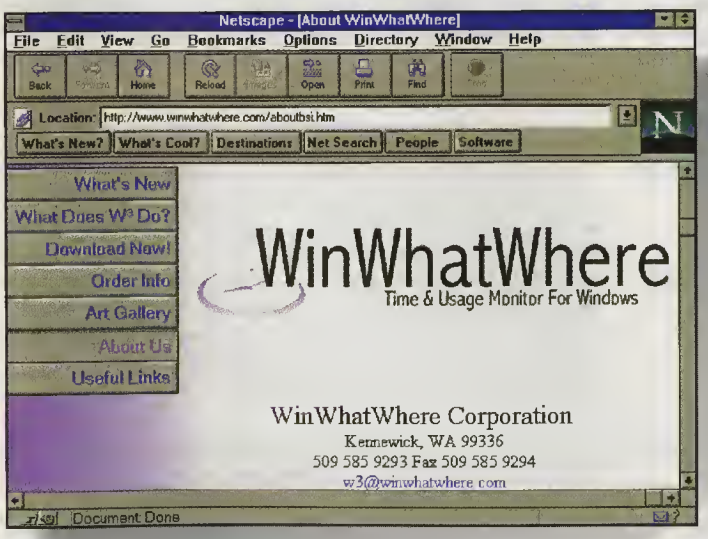
(If you really want to drive someone crazy, capture their password, access their account, then change their password so they won't be able to access their own account. Do this several times and you can drive your victim to drink.)

Now that you know what keystroke monitoring programs are capable of capturing, load one of them on your boss's computer and see how he (or she) uses a computer. With a little luck, you might be able to read love letters your boss may have written to a fellow co-worker, or find a password used to access an Internet account to download pornographic images. Then use this information against your boss and watch the real fun at work begin.

PROTECTING YOUR OWN COMPUTER

Besides having fun at somebody else's expense, you can use a keystroke monitoring program to protect your own computer. Suppose you suspect someone might be using your computer to steal your files or use your Internet account. Just load a keystroke monitoring program on your computer before going home. If someone tries to use your computer, the keystroke monitoring program will catch every keystroke.

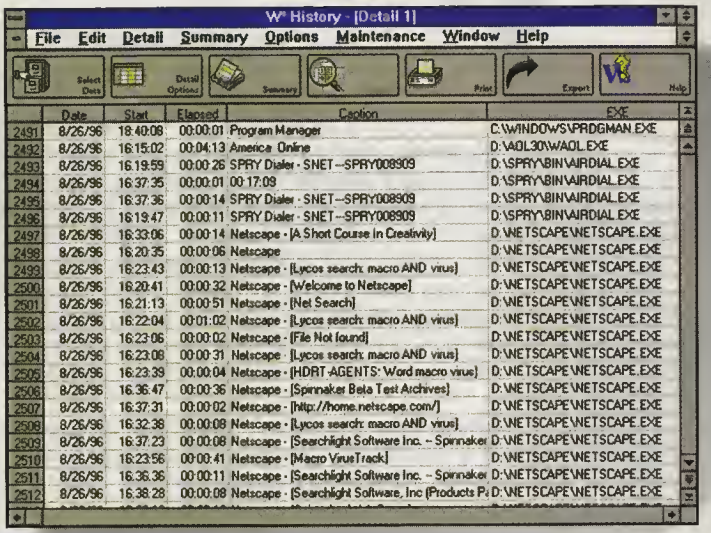
Unfortunately, the three programs mentioned above only capture keystrokes, not any mouse clicks the user may have made. Since the world of graphical user interfaces has invaded nearly every part of the computing world, you might also want to know the specific programs someone loaded as well.



To learn this information, visit the ***WinWhatWhere Corporation*** web site at **http://www.winwhatwhere.com** and download the **W396S.ZIP** file, which is a shareware version of their WinWhatWhere keystroke monitoring program for Windows 3.1, Windows 95, or Windows NT. The commercial version of the program is only **$99** so if you find the program useful, pay the registration fee and get the printed manual as well.

WinWhatWhere can load and yet not appear in the Windows task list. That way no one (except for you) even knows the program is running. You can even install WinWhatWhere over a network so you can spy on multiple computers simultaneously.

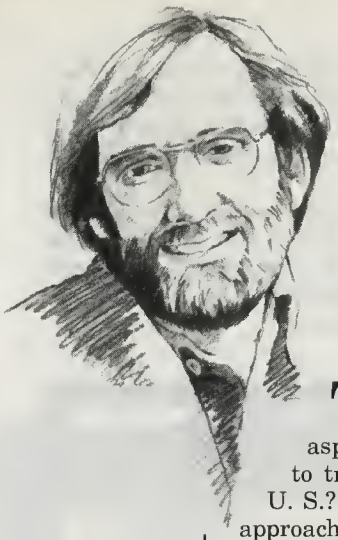
WinWhatWhere can not only record the number of keystrokes typed, but also the specific programs used and how much time was spent in each program. Once the program has captured this crucial information, you can view it in an Access database, export it to an ASCII file, or print it out.



By studying this information, you could recreate the exact programs someone used on your computer. If someone has been exploring the World Wide Web, WinWhatWhere can show you the different web sites they visited so you can see if someone is exploring the Penthouse web site when they should have been working instead. Armed with this information, you can determine if the culprit was stealing files, accessing online accounts through your computer, or just plain goofing off at your expense.

So grab a copy of a keystroke monitoring program and protect your computer (or spy on other people's computers). While encrypting your data may keep thieves out, it might be more fun letting them access your computer and then tracking their activities using a keystroke monitoring program instead. That way you could load your computer with fake information and bogus programs that can drive your victim crazy trying to figure out how your computer works.

The next time you're using a computer, be careful. Now that you know about keystroke monitoring programs, you know that someone could be looking over your shoulder — whether they're standing behind you or not.◆



EDUCATION LINK

by Rea Andrew Redd

WHY WE USE THE INTERNET

Two of the Internet's educational dimensions are the grassroots and global aspects of Net pedogogy. How long will it take to train the two million or so teachers in the U. S.? The question itself indicates a "top-down" approach. Many university instructors of education and library science are required to have an "online" component in their syllabi. Frankly, there are some instructors who are loath to assign even e-mail or chat rooms to students because it is just one more thing to grade in an already packed semester. If the electronic revolution were left to the universities' curriculum, it would take two generations for the Net to trickle down to the level of primary education.

Rea Andrew Redd lives and works in southwestern Pennsylvania where he manages a high school library, teaches European history and Scholastic Achievement Test preparation. On occasion, he reenacts American Civil War battles with the Ninth Pennsylvania Reserves, an historic, military impression unit. E-mail Rea at: **redd@genesis.duq.edu**

Having access to the Internet can change an educator's views on learning, teaching and research. Reform-minded educators provide active learning environments in which collaboration among students is a significant teaching method. As both a resource and communication tool, the Internet enables students to find timely information and communicate with valid sources and other students as peers. Educators and students can find peers online who can point a direction, teach needed skills, or share hard-won knowledge.

Students should learn that they are responsible for their own education. America has lost self-education as a value due to government control of the school system. Many of America's best politicians and inventors were self educated. To educate yourself, whether you are a teacher looking for new methods or a student looking for the best education you can get, you should build your own revolutionary curriculum from the following sites. A good curriculum can be organized by questions, try these as a start.

How do you teach with technology?
http://www.wam.umd.edu/~mlhall/teaching.html

What reform goals are generally accepted by educators?
http://www/ed/gov/pubs/goals/progrpt/

What ideas are teachers exchanging on a daily basis?
http://www.mightymedia.com

What projects, grants and programs are available to further my own education?
http://www.ed.gov/pubs/TeachersGuide/

What grassroots and regional efforts are bringing about the electronic revolution in education?
http://www.nwrel.org/national/regional-labs.html
http://www.oii.org

OHIO CABLE INDUSTRY LAUNCHES CLASSROOM INITIATIVE

The Ohio Cable Telecommunications Association (OCTA) announced late this summer a commitment to provide free basic Net access to the state's K-12 schools. By the end of 1997 the Cable High Speed Education Connection will be provided by Time Warner, Inc., in Akron, Canton, Columbus, Upper Arlington, Wadsworth and Worthington. Cleveland will be served by Cablevision. Other Ohio cable companies within the state should provide similar programs by 1998. Through the Ohio Cable Foundation for Education and Technology, the state has a strong background in the early development of distance learning, electronic field trips, and cable in the classroom. For more information, contact your school district's chapter of the PTA and ask for a report by Patricia Whitten, president of the Ohio PTA. You may also query your local cable television provider if you live in the above mentioned communities.

PRESIDENTIAL CAMPAIGN '96

The National Political Index at **http://www.politicalindex.com** offers hourly headlines, features and links from CNN, ABC, CBS, and NBC television networks and ***The Atlantic Monthly's*** Election Connection. There are also, at this site, links and lists of federal, state, and local elected officials with information on how to contact them.

CLASSROOM CONNECT

Those hard working, educational Net folks from Lancaster, PA, are releasing the second issue of their iCD Internet education series. This issue includes 37 education WWW sites in six major categories: Social Studies, Language Arts, Math, Science, Kid's Corner and Teacher's Corner. Ranging from the complete works of Shakespeare to the Boston Museum of Science, this CD provides four lesson plans for each subject area, plus three activity sheets which teachers can download for group activities.

The Educator's Internet CD Club, which at this point will include four CDs, is designed to help K-12 teachers use multimedia educational resources available on Internet Web sites in a convenient format. Students can access Internet content in the classroom without the restrictions of slow bandwidth or connectivity problems. Membership for new iCD scribers is **$79** and includes the introductory starter pack of Internet browsing tools plus four CD-ROMs, which are issued four times a year. Members will also be able to purchase special issue CDs on specific topics for **$20**.

Classroom Connect continues to offer its worthwhile, one day seminars this fall. "Integrating the Internet into Your Classroom" is available in 20 cities this fall. Early registration costs **$99** and onsite registration is **$149**. The Connected Classroom Conference, offering 200 worskshops, hands-on Internet labs and over 2,000 attendees will be held in Anaheim, California, November 6-9. Classroom Connect, a division of Wentworth World Wide Media, Inc.: **mailto:connect@classroom.net** or **http://www.classroom.net**. 1866 Colonial Village Lane, P.O. Box 10488, Lancaster PA 17605-0488. Voice **(800)638-1639**.

DEEP POCKETS MEMO

The National Digital Library (NDL), in cooperation with Ameritech, Inc., is offering **$2 million** over the next several years to non-profit organizations which want to digitize primary source materials in American history and culture. Grant applications are available now for 1997 awards at **http://lcweb2.loc.gov/ammem/award** or by contacting Barbara Paulson at **mailto:bpau@loc.gov** or fax **(202)707-3566** or by voice phone **(202)707-1087.**

THE K-12 BROWSER

Guidance

The Educational Testing Service (ETS) has a site on the Web that directs visitors to information on the achievement, admissions, and occupational test administered by ETS. At **http://www.ets.org/** test takers will find career information and a directory of college and university Web sites. The College Board offers access to a database of more than 3,200 colleges and universities which can be searched by admissions and financial aid policies, geography, majors, and student activities at **http://www.collegeborard.org**

Social Studies: The American Presidency

Since the Great Depression, when a President retires he builds his own library. Hoover, Roosevelt, Truman, Eisenhower, Kennedy, Johnson, Nixon, Ford, Carter and Reagan are at the Presidential Library System at the National Archives and Records Administration, which has a gopher site, **gopher://gopher.nara.gov** and contains the presidential libraries in a file entitled "Information About Records Retained by the Presidential Library."

Home Economics

This Hearst Corporation sponsored WWW site is more than just magazine articles previously published in Good Housekeeping, Country Living, and Redbook; discussion forums on homemaking, gardening, and house repairs and feature articles prepared for this site allow students and adults to quickly gather recipes and establish household budgets for apartments and houses. Send your student to **http://www.homearts.com** for quick hom-ec oral reports and research papers.

THE COLLEGIATE BROWSER

Women's Studies

WWWomen, at **http://www.wwwomen.com** which contains a directory of more than 5,000 women's sites. There is a help desk where e-mail can be sent and assistance is given on Web and print reference sources. ***Women in Technology Intl.*** is at **http://www.witi.com** where research, career guidance, health and financial advice for women is available in a format similar to a college campus, right down to the student lounge. ***Women's Wire*** at **http://www.women.com** has more of a magazine style to it. ***Gender Related Electronic Forums*** at **http://www-unix.umbc.edu/~korenman/wmst/forums.html** offers more than 200 women-related mailing lists and newsgroups. Though at this time it is a text-only site, it is well worth the effort to find the exact forum available for your research topic.

History

The ***H-Net Review Project*** at **http://www.h-net.msu.edu/~books** contains reviews of books, computer software, films and videos; reviews are sorted by date, name of mailing list where it appeared, reviewer, and title.

Political Science

The government of Ireland maintains a home page at **http://www.irlgov.ie** that contains information on its departments, such as education, finance, and foreign relations.

Harvard University's John F. Kennedy School of Government has created an interactive case study that examines the role of government in providing incentives for businesses to operate in North Carolina. The site, featuring a library which contains interviews with policy makers, economic data, newspaper articles, and discussion forums, is at **http://ksgwww.harvard.edu/battle.**

The American Political Science Association (APSA) offers a Web site on the topic "Race, Ethnicity and Politics;" this site serves social science professors and graduate students who are researching topics relating to African-Americans, Asian-Americans, Native-Americans and Latino people. A link to the "Race-Pol" mailing list, information on APSA meetings and business is found at **http://www.providence.edu/polisci/rep**

"Emily's List" at one time a mailing list, now has a Web site that serves an interactive guide to information about Democratic pro-choice women running for political office in the U. S.; it is found at **http://www.emilyslist.org**

Library Reference

The U. S. Senate offers access to the ***Budget Bulletin***, a weekly newsletter on the federal budget. Featuring information on current budgetary debates, pending legislation, Presidential proposals, and links to the Senate Budget Committee's home page, this site is paid for by your tax dollars, so visit **http://www.senate.gov/comm/budget/releases/bulletin.htm**

THE REFERENCE BOOKSHELF

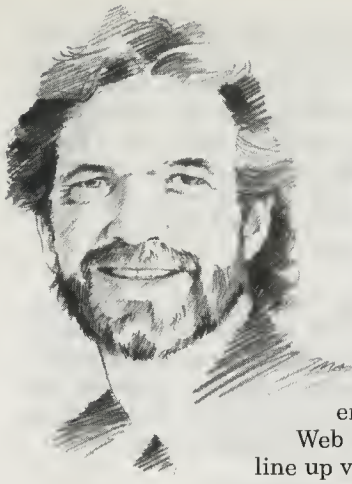
The Complete Internet Companion for Librarians, Allen C. Benson, Neal Shuman Publishers, Inc., 1996, 405 pp., appendices, index **$49.95**.

Using the Internet, libraries can vastly expand their reference services; full text databases, essays, scholarly papers, software, books, pictures, sound files are all available on the Net.

Yet, two connections have to be made: 1) the electronic connection and 2) the cognitive connection. The hardware, software, and the skills to use them are presented in this large format book.

Nothing is taken for granted by the author; the Internet is explained along with appropriate hardware and software for linking with it. FTP, TELNET, e-mail, search utilities and their protocols are clearly presented. Information searches, the integration of the Internet into traditional library services and a listing of library forums and Internet resources are among the appendices.

Likely users of this book will be graduate school instructors who are faced with offering a class on the electronic library and need a textbook; other users will be librarians who inservice faculty and staff. It will be an essential addition to the professional library shelf and the faculty reserve shelf. ◆



MANNING THE WIRES

by Ric Manning

DEATH OF A CAR SALESMAN?

The popular press is littered with profiles of hot young Internet entrepreneurs who hatch a cool idea for a Web site or nifty piece of code. They typically line up venture capital and start a company that, despite losing bushels of money, goes public and makes all the insiders millionaires.

Peter Ellis, Auto-By-Tel Founder

Peter Ellis isn't one of them. For one thing, his online business actually turns a profit. And in the process, it just may alter the entire auto industry and change the way you and I buy our next car.

Ellis is anything but a hacker. For years, the only computer in his house belonged to his wife and Ellis was forbidden to touch it. One day when his wife was away, he tried to use the computer to write a letter and he promptly crashed the machine.

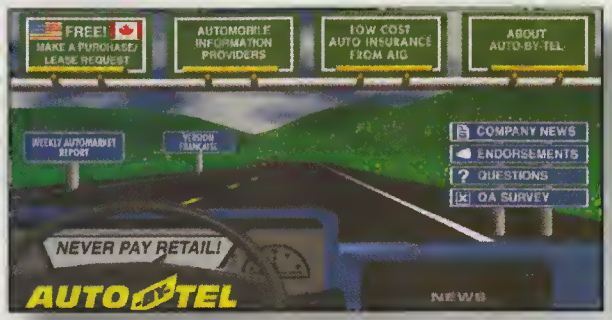
What Ellis did understand was the automobile business. At one time, he owned 16 new car dealerships and other auto-related businesses in California and Arizona. And something told him that computers and the car business had a future together. He rented an office and bought his own PC and stack of software. He taught himself to use the programs and he explored the commercial online networks.

"It seemed to me that a lot of people were using the online services and I had to check them out," he said. "What I saw was kind of like the Wild West and I thought I saw an opportunity."

Ellis said his years in the car business convinced him that consumers wanted more control over the buying process. He saw them embrace new one-price selling strategies and other alternatives to haggling and high-pressure salesmen.

Last year Ellis and partner John Bedrosian launched ***Auto-By-Tel***, an online buying service that links car shoppers with dealers who are willing to make a deal at a set price. He put Auto-By-Tel on all the major online services — CompuServe, Prodigy, America Online and Microsoft Network — and on the World Wide Web at **http://www.autobytel.com**

Auto-By-Tel differs from ***Auto-Vantage***, another online car-shopping available on America Online and CompuServe that negotiates with dealers on the members' behalf. Rather than making customers join a buying service, Auto-By-Tel signs up dealers. It currently has more than 1,400 car dealers in the United States and Canada who pay as much as **$1,500** a month to be part of the network. The dealers also agree in advance to quote a fixed price to customers and to refrain from using bait-and-switch or other hard-sell tactics.



Auto-By-Tel Sells $3 Billion Worth of Cars & Trucks

Auto-By-Tel users are advised to research cars, models and prices and to know what they want to buy or lease. When a customer asks for a price quote on a particular make and model, Auto-By-Tel sends the request to one dealer in the shopper's area. The dealer then calls the customer and offers his best price.

Consumers like the service because they get a bottom-line price without shopping and wrangling. The member dealers get to sell a car without the overhead expenses of advertising and sales support.

"The average advertising cost to sell one new car is somewhere around $400," said Ellis. The cost for using Auto-By-Tel, he said, is about **$25**.

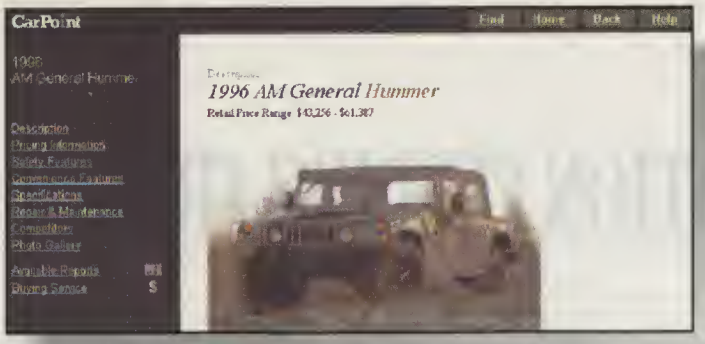
So far, the system is working better than many people in the auto industry expected. The service gets about 30,000 quote requests every month. Ellis said about 60 percent turn into sales, compared to 20 percent for customers who walk through a dealer's door. The company says it expects to generate about ***$3 billion*** in new car and truck sales in 1996.

Ellis said he expects to as much as double the volume of requests through the company's new association with Microsoft's ***Carpoint*** service. Carpoint (**http://carpoint.msn.com**) went online in July with detailed descriptions of more than 900 automotive models.

Carpoint's database includes all major car model lines sold in the U.S. With many of the models, visitors can get a 360-degree interior view of the car by installing a browser plug-in called ***Surround Videos***. When visitors to the site are ready to place an order, Carpoint hands them off to Auto-By-Tel.

Ric Manning writes about business technology, computers and consumer electronics for ***The Courier-Journal*** in Louisville, Ky. His weekly column called *Home Tech* is distributed to more than 80 newspapers by the Gannett News Service and it's available on the World Wide Web **http://iglou.com/gizweb**

Ric was the founding editor of ***Plumb*** and ***Bulletin Board Systems***, two newsletters that covered the BBS arena in the early 1980s. His freelance work has appeared in several magazines including ***PC/Computing***, ***Mobile Office***, ***PC Week*** and ***Home Office Computing***. Ric lives in Southern Indiana with his wife, two children and a champion Weimaraner. Write to Ric at **mailto:ricman@iglou.com**



Microsoft's Carpoint Has All the Answers

Auto-By-Tel also plans to venture into the used car market. Ellis said the company will launch a service late this year that will let customers ask for a price on used cars. Initially, the used car inventory will come from auto dealers, but it will eventually be expanded to include cars offered by individuals.

"We're also talking to a company that can look at a car's (vehicle identification number) and tell you if there was any body work done on the car," Ellis said. Another service will check title records to be sure a used car hasn't been totaled and rebuilt from parts.

If car shopping online is doing so well, how much longer will we need dealers and salesmen? Ellis said automobile manufacturers are asking the same question.

"Nissan came through last week. Ford was here last month and Toyota and Lexus have been here three times," Ellis said. And all of them are wondering how they might use services like Auto-By-Tel to sell cars directly to consumers.

"For the past 75 years, the car business has probably had the most inefficient distribution system known to mankind," Ellis said. "Dealers have millions of dollars of inventories, some of which they can't sell."

The dealers, unable to send a car back to the manufacturer, devise sales incentives to move the dogs off the lot. The situation immediately turns sales reps and shoppers into adversaries.

"With technology, people are now able to reach into a dealer's inventory and pluck out the car that they want," Ellis said. Before long, Ellis believes manufacturers will warehouse their cars and deliver them to dealers (or buyers) after a sale is made.

Want to test drive a car? Chrysler, for example, might rent a stadium parking lot for a weekend and let you tool around a track. Then you could go home and place your order at your computer.

"Car salesmen as we know them are an endangered species," said Ellis. "The salesman of tomorrow will be a very professional and likable person. They won't be pushing you to buy the highest-priced car just to get a bigger commission."

Ellis said he's no online guru and he doesn't have all the answers for making online commerce work. But he knows he wouldn't be where he is today if he had simply tried to transfer car ads from print publications to the Web.

"The biggest mistake that people make, the reason why people aren't successful on the Internet, is they are taking old marketing efforts and transferring them to the Internet," he said. "When you do that, you're doomed to fail."◆

A WEB SAMPLER FOR CAR SHOPPERS

Auto-By-Tel	http://www.autobytel.com	Quotes on new cars.
Car Talk	http://www.cartalk.com	The Car Guys from NPR.
IntelliChoice	http://www.intellichoice.com	New car information, used car prices.
J.D. Power and Associates	http://www.jdpower.com	Buyer satisfaction ratings.
Dealernet	http://www.dealernet.com/	A collection of dealers and leasing companies.
Edmund Publications	http://www.enews.com/magazines/edmunds	Publishers of auto buyers' guides.
Natl. Highway Traffic Safety Admin.	http://www.nhtsa.dot.gov	Recall and trouble reports.
Auto Outlet	http://205.230.66.103/auto/index.html	Used car sales.
AutoHelp	http://www.thesphere.com/AutoHelp/	Quotes on new cars.
AutoLink	http://www.autolink.com/	Collection of auto industry Web sites.
Automobile Information Center	http://www.autoinfocenter.com/	Database for car buyers and sellers.
AutoSite ·	http://www.autosite.com	New and used car information.
AutoVantage	http://www.autovantage.com	Quotes from dealers on new cars.
Internet AutoSource	http://autosource-usa.com	Auto shows and events.
BMW	http://www.bmwusa.com	
Chrysler	http://www.chryslercorp.com	
Ferrari	http://www.ferrari.it/ferrari/	
Ford	http://www.ford.com	
General Motors	http://www.gm.com	
Honda	http://www.honda.com	
Isuzuville	http://www.isuzu.com/	
Jaguar	http://www.jaguarvehicles.com	
Lotus	http://www.lotuscars.com	
Mercedes-Benz	http://www.daimler-benz.com	
Mitsubishi	http://www.mitsubishi-motors.co.jp	
Nissan	http://www.nissanmotors.com	
Popular Mechanics	http://popularmechanics.com	
Saab	http://www.saabusa.com	
Subaru	http://www.subaru.com	
Toyota	http://www.toyota.com	
Volkswagen	http://www.vw.com	
Volvo	http://www.volvocars.com	

by Bill Gram-Reefer

THE DEREGULATION FEEDING FRENZY

BEGIN THE BEGUINE

Bill Gram-Reefer, based in Concord, CA, is president of WORLDVIEW, specializing in connectivity and communications. His Online Services column appears monthly in *MicroTimes*. His web page can be accessed at **http://worldview-bbs.com.** E-mail Bill at **reefer@worldview-bbs.com**

After 62 years the Federal Communications Commission has dusted off its steel-toed dancing shoes and stepped onto the floor, as the Telecommunications Act of 1996 requires. The FCC in August handed down its marching orders delineating how the utility commissions of 50 States and the District of Columbia should implement the Telcomm Act's mandates; most notably, implementing new, open competition between local exchange carriers (LEC). Not since 1932 has the telecommunications rule book been rewritten, so one could expect some first-night jitters. But these fears were put to rest — it's a Federal Bureaucracy, after all — as the FCC churned out 700 pages detailing the who, what, where, when, and how much relating to how regions should be opened to competition in markets not so long ago dominated by the Baby Bells.

> ***"It appears that the FCC has ignored the law."*** ◆

With the country's $100 billion-plus local telephone market put up for grabs by Congressional fiat, the FCC order spouts the new rules governing what local, long distance, cable and other companies get to do to each other — and consumers — as they whirl about the dance floor to the tune of "We're in the money." The FCC rules supposedly provide a national policy that gives state regulators leeway on how to make important decisions that might, or might not, best serve local customers. Actually, the new rules needed only 50 pages, with another 650 pages of analysis and explanation of how the FCC *kommieczarinskis* arrived at their initial, pre-litigated guidelines. The rules are still not all that clear, and, depending on who you listen to, not all that fair or flexible.

In short, the regulations outline how various potential competitors to existing LECs might break into the local phone business. There are two key foci of the FCC orders. First, while the FCC opines that one of the goals of the Telecomm Act was to encourage companies to build their own local networks to compete with existing phone companies, a lot of the order has to do with the reselling of services back and forth between existing and new players. Second, pricing for services should be based not on historical costs spawned within a monopolistic environment, but on future costs, i.e., what would it cost to build an infrastructure within a competitive environment now.

The FCC rules allow competitors to buy service from local Bells in a default range of 17- to 25-percent discount off of standard retail rates. The Bells wanted the discount to be 10 percent or less while the long distance and cable companies wanted steeper discounts like the 32 points AT&T had been trying to pound out of Bell Atlantic during their recent interconnection tango. However, the FCC also decided that the long distance companies that lease parts of an existing local loop for resale must continue to pay the local Bell companies access charges for originating and terminating calls. The discount guidelines can be followed to the letter or local utility commissions can follow a complex set of FCC requirements for studies and assessments if they wish to conjure their own unique pricing discount scheme. No lack of potential confusion there.

Here are the score cards from the dance judges. Two style points for the long lines and cable. Two technical points for the LECs. FCC shuffles responsibility off to the state of confusion. So, through the preliminary round it appears, in the words of Thomas Tauke, Nynex executive vice president for governmental affairs, "a wash." Yet the FCC will reconsider access charges later next year. A pittance, but still a key issue, as access charges are the currency that helps keep residential rates low in high-cost and rural areas.

If there is any big winner in this heat it's wireless, as their interconnection charges could drop some 70-90 percent. The only downside here is having new administrative overhead for the pleasure of complying with 51 state and D. C. agencies instead of reciprocal agreements with the local and long distance carriers they've partnered with.

Other tidbits from the FCC order include those items that are to be unbundled like local loops, local and tandem switching, interoffice transmission facilities, signaling, operator services and directory assistance, network interface devices (go Cisco!) and operations support systems such as ordering and maintenance. Another element to the order includes "procedures for nondiscriminatory access" by cable and long line companies to poles, ducts, conduits and rights-of-way owned by LECs or utilities.

Even more interesting, a most-favored-nation provision is included within the order whereby new entrants have the right to the best terms negotiated. In the here-we-go-again department, FCC bigwig Hundt pointed out that the 80-odd interconnection agreements hammered out in hand-to-hand combat already could be re-negotiated under the new rules.

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Cost-based, forward looking pricing for the "unbundled elements" like interconnection and purchase of switching and other network services is expected, as well as for service options including call forwarding, voice-mail, and Caller ID. The acronym you should begin to get to know now is *TELRIC*: "total element long-run incremental cost." Meaning, if you're an LEC, the "embedded" cost of having put your existing copper into the ground or onto poles, or putting a kazillion existing phones into every home and office building, cannot be factored into the discount structure passed onto your new competitors. Lease prices should be based on what it would cost to build it again. I don't know what these folks were smoking, but the reasoning is that TELRIC would somehow result in a lease price lower than what the Bells had hoped for.

TELRIC makes it all that much easier for the long distance or cable people to simply lease a package of services from a local carrier and put their brand on it instead of actually ever building the new networks that Congress had dreamed of — including new jobs, employment, competition, lower prices, and increased GNP.

According to Danley T. Hubbard, senior vice president of SBC Communications, "...it appears that the FCC has ignored the law with respect to other things such as the resale of unbundled network elements and may well have missed the mark with regard to promoting facilities-based competition. If that is the case, there will be no incentive to create competitive networks, and ultimately, no real growth in jobs or consumer benefits. What may result is simply a race to slap different brand names on a fixed set of services. If that is the case, the only innovation that will occur will revolve around the next great marketing promotion. If this is true, American consumers will be profoundly disappointed. As stated, SBC strongly supports competition in the telecommunications industry, but we support the specific means to establish such competition as enacted by Congress."

However, SBC seems very encouraged by the FCC's ability to follow the will of Congress with respect to access charges. So that's one reserved thumbs-up from an LEC. In polling other players we find mostly positive but mixed reactions.

U.S. West likes the access charges but still is not sure. "This 'one size fits all' approach to regulation doesn't work well in our unique region which includes the fastest growing cities in the country together with thousands of rural communities. The FCC's guidelines might be appropriate for New York City, but if western and midwestern states adopt the FCC's default price and cost recommendations, it would prevent the investments needed to"...blah, blah blah.

BellSouth is ready to sue. "FCC is micromanaging the telecommunications industry... We are concerned that the terms and conditions the Commission have laid out may impede the progress to competitive markets and seriously inhibit state commission latitude... Once we assess its (FCC Order) impact, we will determine what legal steps may be appropriate."

AmeriTech cops team-player 'tude. "We're confident that these new rules will move our nation and this industry closer to the day when customers have far more communications choices and all markets are open to all companies" — including AmeriTech's entry into long distance.

IntelCom Group, a competitive local exchange carrier licensed in California, Ohio and Tennessee not surprisingly yelped "HOORAY," noting the FCC's "continued commitment to bring genuine, facilities-based competition to the local exchange telephone arena."

Nynex, claiming they've been opening marklets for years, is chomping at the bit: "We anticipate this order will have little near-term impact on Nynex."

There are still questions and issues that will play out over the course of this year and next. But the reality is the local Bells must do the hokey pokey before they get a crack at long-distance. Maybe BellSouth should be glum. So far, it looks like AT&T, MCI, or Sprint, TCI, and the IntelCom and Jones InterCable players can waltz right in, lease services and call it their own show only to steal market, revenue and profits from the Bells who must get out on the dance floor and let every oaf with two left feet stomp their toes just to have a shot at offering long distance.

It may be a highly ritualized dance worth enduring as the Bells believe consumers will want one-stop shopping rather than working with two, three or four companies for local and long distance, data, internet access plus IP services, and video. But for now, don't expect real competition to show up on your dance card until well into 1997.

YOU ASKED FOR IT: KT&T Communications, not to be confused with AT&T Communications, has registered several new operating units in Texas. Those companies, "I Don't Know," "I Don't Care," "It Doesn't Matter," and "Whoever," charge about double the cost of some other long distance companies for operator-assisted long distance calls, the Associated Press says. The choice comes when the operator asks which long distance company you want to complete your call. "It's not deceptive at all," insists Dennis Dees, president of KT&T. Dees won't say how many calls his new companies have completed, but said "I Don't Care" and "It Doesn't Matter" were the most successful. *(AP)* ◆

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Online Multimedia Database

PUTTING THE NET TO WORK

by Durant Imboden

SHOPPING FOR A VIRTUAL BANQUET

A few months ago, Jack Rickard of ***Boardwatch*** attended a management seminar titled "Motivating without Money." The workshop featured breakout sessions with themes like "Gold Stars for Good Work" and "Caffeine as an Energizing Force." Jack wasn't impressed by most of the ideas he heard, but one breakout session caught his fancy: "The Pavlovian Impact of Food Rewards."

One thing led to another, and it wasn't long until Jack announced the first annual Boardwatch Banquet for staff members and contributing writers. The original idea was to grill hamburgers on the engine block of Jack's Hummer, but many of us balked at flying 1,000 miles or more for a company picnic. So Jack came up with an even better concept: a *virtual* banquet. Meals would be prepared at the magazine's offices, flash-frozen, packed in dry ice, and shipped to the guests for reheating at home. The headquarters staff and columnists would then meet online, eating while listening to motivational speeches by Internet Relay Chat.

Editor-at-fault David Hakala was named catering director, with John Dvorak as his *chef de cuisine*. Since I didn't yet have a column topic for the October issue, David put me in charge of shopping — with the proviso that all supplies had to be bought via the Internet to show the magazine's commitment to the online food industry.

The first item on my shopping list was smoked salmon, so I headed for ***Alaska Sausage & Seafood*** at **http://www.alaskanet.com/shopping/Aksage**. The Lachs (Nova Scotia-style) salmon was **$16.99** a pound, but David had given me Jack Rickard's MasterCard number, so I ordered half a dozen filets.

Finding a salad source was more difficult, but ***Farm Direct Marketplace*** came to the rescue. **Http://www.farmdirect.com** bills itself as "the Internet's first marketplace run by real farmers." There's an element of hype in that description, since FDM's staff in Philadelphia includes a certified public accountant, a marketing consultant, a tax attorney, a Web designer, and two computer professionals. (Still, the CEO Alan Kleinman is a tomato grower as well as a food broker, and he looks suitably agricultural in his farmer's duds and cloth cap.)

It took me a while to examine the food offerings, since I couldn't resist line dancing to the MIDI country music that began playing about 20 seconds after I opened the home page. The animated GIFs were impressive, too. I couldn't help wondering if today's ag schools were teaching Web design and Java programming. (How do you keep 'em down on the farm after they've seen ActiveX?)

My stomach grumbled — it was lunchtime — so I jumped to FDM's directory of fruit and vegetable vendors. ***Haegeman's Agro*** caught my eye, since it sells imported Belgian endive. I ordered a 5-pound pack (approximately 20 heads) for **$19.00**. I also spent ***$9.95*** on a Creole Rose aromatic rice sampler from ***Garber Farms Rice***. (The rice didn't go with the salad, but I thought Jack might enjoy serving Cajun rice at his next catfish fry.)

The *salade d'endives* would require a dressing. I found my liquid ingredients at ***Rushworth & Woof***, **http://www.imaginet.co.uk/randw/rawo.html**, which offers a nice range of Spanish olive oils and sherry vinegar. Peppercorns were available from ***Salsas, Etc.!***, a firm that specializes in "hot and spicy foods and novelties" at **http://www.salsasetc.com**.

The menu included a white bean soup, so I paid a visit to ***The Gourmet Food Store*** at **http://www.sendit.com/gourmet** to lay in a supply of legumes. (Tomatoes and bacon were also listed in the recipe, but John Dvorak's refrigerator was already stocked with those items.)

The next course was tougher — to find, cook, and (quite possibly) to eat. Jack Rickard wanted pressed duck on the menu, but he was concerned that the portions might be too small for hearty ***Boardwatch*** appetites. David Hakala came to the rescue with **http://www.achiever.com/ostrich**, the URL of ***Ostriches On Line***.

This comprehensive Web site is geared more toward prospective ostrich ranchers than consumers, with its "Livestock Grow Out Program," "Ratite Business Plan Software," and "USA Slaughter Program." It even has links to the Ratite News Group at **news:sci.agriculture.ratites** and the Ratite Mailing List in care of **majordomo@uidaho.edu**. (In case you're wondering, a "ratite" isn't a pervert who likes rats or the brand name of a nuclear-fallout shelter. The word refers to large, flat-breasted flightless birds such as the ostrich, emu, and cassowary.)

Durant Imboden is a freelance writer who manages the Writing forum in the Arts & Entertainment category of The Microsoft Network. His credentials include published novels, articles, and short stories; fiction editing and staff writing for ***Playboy***; representing authors at a New York literary agency; and freelance copywriting for Lotus, Apple, Northwest Airlines, US West, and other national advertising accounts. When not typing, Durant is a volunteer announcer at local, state, and sectional figure-skating competitions. **Mailto: Durant_Imboden_MSN** on The Microsoft Network or **writing@msn.com** on the Internet. The author is not an employee or spokesman for Microsoft.

Ostriches On Line wins this column's Online Ego of the Month Award with its display of ten award logos. The awards aren't just shown on the home page—they've been included in the basic page template, turning the 700-page site into a shrine of self-congratulation.

But enough of that. I'd been asked to buy ostrich, so I clicked on "The World's Largest Ostrich Shop" and checked the prices of USDA-approved Ostrich meat. (Filets were **$14.50** a pound, but I needed to special-order whole carcasses for the *autruche rouennaise à la presse* recipe on the banquet menu.)

Having obtained the fowl, I moved on to the main-course fare: *entrecöte*, the French answer to beefsteak. An AltaVista search turned up plenty of online *boeuf* vendors, including ***Dreisbach's Steaks*** at **http://www.cnweb.com/dreisbach**.

The Dreisbach's site uses forms with menus to record item numbers and quantities as the user moves from page to page. Buyers can link to a third-party site, **http://www.cybercash.com/cybercash/wallet**, to download Cyber-Cash Wallet software for secure ordering from most Web browsers.

My shopping cart was loaded with Dreisbach's dry-aged steaks, so I headed for **http://rogue.northwest.com/~mushro19** to pick up a bushel of *champignons* at ***Mushrooms, Truffles & Matsutakes of the Northwest***. A simple e-form made it easy to order fresh and dried fungi.

Pommes frites were also on the menu. That meant I needed potatoes, which were offered by a vendor called ***Spud King*** at Farm Direct Marketplace, **http://www.farmdirect.com/vendors/spudking/main-2.0.html**. A 20-pound carton contained 21 Idaho Russets and cost **$24.95**—a little steep, but Jack Rickard was footing the bill.

The Boardwatch Virtual Banquet

Menu

Saumon fum, froid
Cold smoked Alaskan salmon with toast points

Salade d'endives
Sliced Belgian endives with oil, vinegar, and pepper

Purée de haricots blancs secs ... l'américaine
White bean soup with tomato and bacon

autruche rouennaise à la presse
Boned and pressed ostrich with red wine sauce

Entrecöte aux champignons et pommes frites
Sautéed beefsteak with mushrooms and French fried potatoes

Sachertorte
Chocolate cake from the Hotel Sacher, Vienna, Austria

Fromages variés
Assorted cheeses

Vins
Wines

Café - Thé
Coffee - Tea

For dessert, I didn't hesitate — I clicked directly to the *confiserie* at the Hotel Sacher in Vienna, Austria, where the chocolate cake known throughout the world as the Sachertorte was invented more than 150 years ago. ***The Original Sachertorte*** page at **http://macii.cso.co.at/Sachertorte** is linked to an e-form where one can order a 22-cm Sachertorte in a wooden crate for ÖS 430 (US $42) plus packing and air shipping.

Because not everybody likes chocolate cake, Jack had insisted on a cheese course at the end of the meal. I'd spent so much on the Sachertorte that I found a domestic source for camembert and brie: ***The Marin French Cheese Company***, **http://sfweb.sfnet.net/cheesefactory**. (I also ordered a block of Schloss cheese for my personal use after learning that it was "replete with delicate naughtiness.")

With the meal's ingredients on their way to ***Boardwatch***, it was time to think about beverages. ***The Wine House*** at **http://www.virtually.com/plaza/winehouse** had a vast cellar of *vins rouges et blancs*, including an "Old and Rare" list that offered a 1961 Petrus for **$2,499.99**. Having long resisted the siren call of oenophilia, I e-mailed the Web address to Jack Rickard and told him to choose the booze.

That still left coffee and tea to be accounted for. I ordered the beans from ***Seattle's Harvard Espresso Company*** at **http://www.coffees.com**, partly because the URL was easy to remember but mostly because the company's Web site was a cornucopia of coffee-related information. Harvard Espresso had Sumatra Mandheling (Jack Rickard's favorite bean) for **$9.00** a pound, and I figured that ordering a few bags might be the first step toward a bigger Christmas bonus.

For tea and tea-drinking paraphernalia, I turned to ***Todd & Holland***, a firm of tea merchants at **http://www.branchmall.com/teas/teas.html**. Todd & Holland markets "choice, rare loose leaf teas to serious tea drinkers worldwide," and its catalog tempts the palate with varietals like Gunpowder Imperial Balled, Ti Kuan Yin (Iron Goddess of Mercy), and Malty Assam Bhuyanpir Estate. Needless to say, there are no iced-tea recipes on the home page.

Voilà! My shopping was complete. Soon, John Dvorak would be slaving away in the ***Boardwatch*** kitchens, preparing a meal fit for kings (or columnists). As for me, I retired to my own kitchen for a *petit pain au Jif Extra-Crunchy*, accompanied by *café filtre* in a limited-edition ***Boardwatch*** mug. ◆

BIG BOARD BRIEFS by Wallace Wang

AMERICA ONLINE BLACKOUT

On August 7, subscribers trying to log on to America Online were greeted with this message: "The system is temporarily unavailable. Please try again in 15 minutes." As the day wore on, the message became progressively less optimistic: 15 minutes turned to 30 minutes, then an hour, and then an hour and 15 minutes, then an hour and a half.

Nineteen hours later, America Online subscribers could finally access their accounts. The problem occurred with the computer switches that route data from America Online's nationwide network to their main network center.

For all those people who relied on America Online for crucial business transactions (big mistake there), America Online plans to apologize by crediting your account for one full day's worth of inaccessibility, which turns out to be little more than 30 cents — not even enough for you to write and mail a letter to protest this trivial amount.

If you're happy receiving 30 cents, keep quiet, pay more money to America Online, and continue relying on America Online for your online needs. But if receiving 30 cents seems more like an insult than a legitimate apology, join the AOL Sucks mailing list by visiting **http://www.aolsucks.org/lawsuit/object**. While this may not help you get your money back, it can make you feel better, knowing that you're taking action against an online service that doesn't seem interested in treating its subscribers fairly.

Laughing always makes it hurt less; try this WAV format parody of an "American Online" (sic) commercial. **ftp://boardwatch.com/aol.wav**

AMERICA ONLINE MOVES TO THE NYSE

America Online reported record earnings, up from $394.2 million in fiscal year 1995 to $1.09 billion in fiscal year 1996. AOL chairman/CEO Steve Case predicted continued growth and reiterated the company's aim of having 10 million members within the next 12 months despite the recent blackout that angered many of its customers. Currently America Online has **6.2 million** members, making it the largest online service over CompuServe and the slowly growing Microsoft Network.

America Online plans to switch to the New York Stock Exchange and begin trading under the symbol **AOL**. The company hopes that moving to the New York Stock Exchange will help stabilize its whipsawing stock price. (In other words, company executives want to keep the price of its stock as high as possible before the inevitable subscriber backlash occurs as more people defect to the Internet.)

In case you don't believe America Online's creative accounting, visit a web site detailing what may be America Online's true financial condition at **http://www.crl.com/~destiny/growth.htm**. Is America Online really earning as much money as they claim, or are they simply juggling the numbers to attract more investors (whose money they really need to keep their profits rising)? You be the judge.

CLUELESS COMPUSERVE KILLS WOW!

In an effort to cement their reputation that they really have no idea what they're doing in the online market, CompuServe recently spent several million dollars developing and marketing their new online service dubbed WOW! Curiously, CompuServe chose to cease all marketing and advertising for CompuServe in favor of pushing WOW! to a confused public.

Not surprisingly, subscriber growth to CompuServe plummeted while WOW! attracted less than 100,000 members. So after promoting WOW! at the expense of CompuServe, the company has made a sudden about face and announced that WOW! will merge with CompuServe in an effort to save CompuServe from extinction.

So the lesson that CompuServe's brilliant executives learned was that you don't kill your cash cow to promote a product that nobody wants anyway. Now aren't you glad you didn't buy any of CompuServe's stock?

AMERICA ONLINE: SPEAK ENGLISH OR SHUT UP

Because they know what's best for us, America Online recently decided to ban the posting of any messages written in any foreign language (which should keep those people happy who think that the whole world should learn English for AOL's convenience).

America Online originally claimed that they could not ensure that its Terms of Service were being upheld if people wrote messages in a language other than English. So instead of notifying its members to follow its Terms of Service, America Online decided to just erase any messages written in another language instead.

Naturally, this infuriated several hundred members so America Online backed down on their stance and reluctantly allows foreign languages to exist on America Online.

So the next time you visit America Online, type a message in French, Spanish, German, Italian, or Portuguese, just to see if you can drive America Online's censors crazy. For more laughs, write them a

Wallace Wang is the author of ***CompuServe For Dummies***, ***Procomm Plus for Dummies*** and ***Visual Basic for Dummies*** (all published by IDG Books) as well as ***Surfing The Microsoft Network***, published by Prentice-Hall). He also does stand-up comedy in the San Diego area, and has appeared on A&E's "Evening at the Improv" TV comedy club. He can be reached via e-mail at:**70334.3672@compuserve.com** or **bothekat@aol.com** or **bo_the_cat@msn.com**

compliment in a different language and see if they censor it out of total ignorance (which is the usual way that America Online seems to operate anyway).

GERMANY INVESTIGATES AMERICA ONLINE

America Online seems to bring about its own problems. When they're not busy censoring foreign language messages or messages from breast cancer survivors, they're blissfully ignoring its many members who buy hours to chat with children and solicit sexual favors.

Now the German government has opened an investigation against America Online, charging them with promoting pedophilia and pornography in Germany. Perhaps America Online's German service can get in trouble next time for erasing every message written in English.

DELPHI'S NEW MARKETING STRATEGY

DELPHI INTERNET™ Bring your passion to Delphi

After deciding the challenge of taking on America Online and CompuServe in a dwindling online service market wasn't worth the effort, Delphi has launched a ***Delphi Internet ISP Partnership Program***, which provides its online service capabilities to Internet Service Providers (ISPs). So if your ISP signs up for this program, you'll be able to access all of Delphi's online services including news updates and special interest groups.

Of course, accessing Delphi through your ISP won't be free. After an initial trial period, ISP customers have the option to sign up to Delphi for a discounted monthly or annual fee. For more information about the Delphi Internet ISP Partnership Program (or just to visit Delphi and see what they've been doing lately since they've yanked their ads from most of the major computer magazines), visit Delphi at **http://www.delphi.com**.

COMPUSERVE OFFERS INTERNATIONAL INVESTING INFORMATION

Now that more investors seem intent on gambling their children's college money in the financial market, CompuServe has decided to cater to this crowd by offering financial and economic information on international companies through ***DataStream International Ltd.***, of London. This new premium service, called DataStream Select, offers information on economics, global stocks and understanding markets. Users will have access to economic indicators, stock quotes, bond yields and a glossary of business terms.

"International investing is real hot right now because of the way the U.S. market is behaving," says Gail Whitcomb, a spokeswoman for CompuServe. Naturally, CompuServe charges a fee to access the DataStream International information, but if you think this might be something you're interested in, dial into CompuServe and use the **GO DSINTE** command.

AT&T DUMPS ANOTHER LOSER

In 1994, AT&T bought the ***ImagiNation Network*** in hopes that multi-player, interactive gaming over the modem would become the latest craze since the introduction of the Pet Rock. When that dream fizzled along with AT&T's other dream of starting the InterChange online network, AT&T decided to sell the ImagiNation Network to America Online.

America Online plans to integrate the ImagiNation Network in their Games Channel with the release later this year of CyberPark, a multiplayer, three-dimensional game environment where players can customize their own 3-D avatar to interact with others in a fictional world where people actually like America Online's censorship policies.

Until the ImagiNation Network completely migrates to America Online, you can still visit them at **http://www.inngames.com**.

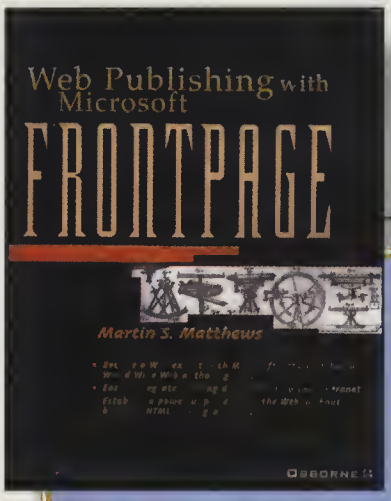
GENIE MAY DISAPPEAR FOR GOOD

After agreeing to buy GEnie, Yovelle Renaissance Corporation has defaulted on its payments to General Electric Information Services (GEIS), making a complete shutdown of GEnie possible. Yovelle originally bought the service in January and made one payment. Then Yovelle tried to renegotiate the remaining payments because they claimed there weren't as many subscribers as there were at the time of the sale. Since Yovelle raised the monthly subscription fee to **$23.95** for an online service that didn't have much to offer anyway, subscribers have been defecting from GEnie in droves.

At least CompuServe and America Online executives aren't stupid enough to believe that raising monthly fees can actually attract more subscribers. In case you want to see how this once popular online service may be faring these days, point your web browser at **http://www.genie.com** and see for yourself. (But look fast before they disappear forever into the dusty archives of computer history.)

STAR TREK: CONTINUUM OPENS ON THE MICROSOFT NETWORK

Proving that they're still very much alive in the online market, the Microsoft Network recently introduced Star Trek: Continuum that (what else?) specializes in covering Star Trek information from the original Star Trek series, The Next Generation, Deep Space 9, and Voyager. In case you haven't gotten enough of Star Trek, this site will certainly fill any voids in your popular culture knowledge about a TV franchise that will probably continue attracting fans long after its fictional star dates have passed into history.◆



BOOK BYTES

by L. Detweiler

Web Publishing with Microsoft FrontPage
by Martin S. Matthews
1996, Osborne McGraw-Hill
421 pages, **$27.95**
ISBN #0-07-882224-6
http://www.osborne.com
(800)262-4729

A whole generation of web developers and designers are now regularly using tools that don't even require knowledge of HTML codes. Microsoft's FrontPage, only relatively recently released, is green around the edges but is likely to grow to become the premiere tool for this segment. Authors who try to document FrontPage face the unenviable task of trying to keep up with a program that will likely be evolving very rapidly. Conspicuously, Matthews doesn't cite the version of FrontPage that he reviews, but it is likely various parts of the book are already slightly out of sync with the software.

The introduction says the book "leads you through the planning, creation, testing, deployment, and maintenance of both intranet and Internet web sites with FrontPage." We think the more abstract concepts and philosophies associated with web page design, such as overall layout, style guides, etc., are better conveyed by some other titles. What Matthew's book does provide is an outstanding exposition of the mechanics and details of using FrontPage that borders on the indispensable (especially if it is still being delivered in the package from Microsoft with only a 22-page manual as Matthews says his version was).

Matthews states the book is organized "the way most people learn. It starts by reviewing the basic concepts and then uses a learn-by-doing method to demonstrate the major features of the product." The product categories are FrontPage Explorer, an overall site organization tool; FrontPage Editor, an individual page editor for text and graphics; To Do List, a means to manage web creation tasks including delegation and priority; Personal Web Server, apparently a web server that runs over a LAN; and FrontPage Server Extensions, or modules that are installed on actual Internet servers themselves to support some of the FrontPage functionality such as "bots."

The copious tables and illustrations are all helpful, but the book might benefit from some diagrams about the interplay between client, server, and FrontPage. For example, the WebBots are not very clearly delineated; it is unclear exactly what functionality they are providing, specifically whether active during offline web maintenance or live hits on the pages, and whether involving the FrontPage environment or processes called up on the web server. FrontPage does include a method of uploading to a remote web server (called "posting" or "publishing") that Matthews covers, but a bit more discussion of the complicated processes and difficulties sure to be encountered here seems in order. Essentially, the moral is that if you are using an Internet provider who has installed Microsoft's FrontPage extensions, you almost don't have to worry about anything, and if they don't, almost have to worry about everything and jump through many additional hoops.

Judging by his resume, Matthews is apparently a Microsoft fan, as the author of some other popular titles including several related to Windows 95. But his style of presentation reveals he's an old hand at writing computer books and his experience really shines in the polish here.

Multimedia Publishing for Netscape (Official Series)
by Gary David Bouton
1996, Ventana Communications Group, Inc.
475 pages, CD ROM, **$49.95**
ISBN #1-56604-381-6
http://www.netscapepress.com
(800)743-5369

Occasionally publishers come out with the paper-based equivalent of the "killer app," and these books do disappearing acts from wherever they're momentarily placed, both bookstore bookshelves and office desks. So far there is an amazing percentage of "killer titles" in the official Netscape series, and ***Multimedia Publishing for Netscape*** almost effortlessly qualifies. This book is superb fodder for the driven designers who want to push their sites to the outer limits of creativity and hypnotic visual electricity.

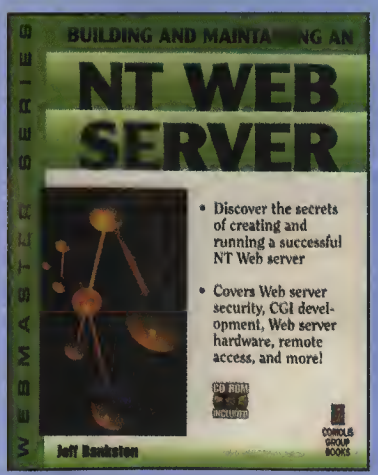
The emphasis of the book is strongly on visual layout, particularly graphics. Bouton devotes most verbiage and diagrams to techniques for squeezing the utmost resolution and finesse out of existing images, focusing on graphical techniques like antialiasing and smoothing. He describes color translation and selection, suggested graphic sizes, scaling issues, vector-to-bitmap conversion issues, the benefits of different image formats, special effects like background textures, etc. The book is very much for graphic

designers who are visual perfectionists. Chapter 4 is a discussion of three-dimensional modeling using existing software with a stunning step-by-step example in Extreme 3D. Chapter 6 covers VRML. Chapter 5 covers animation and digital image compression. Perhaps surprising to some, the author totally backs away from Java with the statement, "Most experienced graphics and desktop users don't currently have these skills, and this book would be about 15 inches thicker (and would have a different author) if knowledge of how to write Java code was contained herein."

The CD ROM supports Macintosh and Windows 3.1/95/NT. It includes renderers, filters, editors, compression utilities, fractal designers, image processing tools, paint programs, libraries of decorative elements, etc. He has a big collection of plugins for video, MIDI, sound, format conversion, text-to-speech, etc. Buyers should note that some other Netscape book CDs are not as jam-packed with goodies as this one is; it's definitely one to snarf if that's what makes you salivate (and you don't care about CD how-to information being in the book).

One major "strike" however is the lack of substantive coverage of sound and audio techniques in the book. This is largely due to the author's background, but the cover does say "multimedia" and there's a very large audience that expects that will include audio. There are a few pages in the "special file formats" chapter but the whole massive area of audio tools and techniques almost seems to be an accidental oversight in the book. (In defense, the web is a primarily visual medium and sound file formats seem to be still in the process of stabilizing.)

The author Bouton has ***Inside Adobe Photoshop*** and ***CorelDraw Experts Edition*** to his credit and has done an admirable job of "living up to the hype" such as that on the back of the cover: "Someone out there is creating knockout web sites. IT COULD BE YOU." About the only minor quibble is that the book didn't come with any full-color, glossy pages to show off some of the immensely attractive and visually striking artwork and raytracing depicted. Oh well, maybe next edition-or never. The cost is already half a c-note.



Building and Maintaining an NT Web Server (Webmaster Series)
Jeff Bankston
1996, Coriolis Group
477 pages, CD ROM,
$39.99
ISBN #1-883577-90-X
http://www.coriolis.com
(602)483-0192

Boardwatch's esteemed founder and editor Jack Rickard has been touting the NT platform as very attractive for web servers long before it was fashionable. A mass exodus from Unix to NT seems to be in the initial stages not only for web servers, and if Microsoft doesn't alienate the market by doing something stupid, it's almost a sure bet that much future web traffic will emanate from NT servers. This book is the first title we've seen in what is likely going to become a very large niche market.

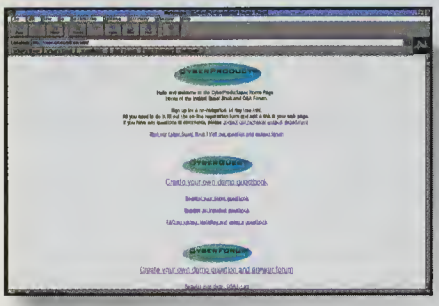
Bankston is a system integrator and networking specialist, also author of ***Web Browsing with The Microsoft Network***. It's divided into two parts; the first is more abstract and general, covering NT history, its relation to the Internet, planning the web site, estimating volume, users, and requirements. Chapter 3 covers Web Services from a Business Perspective including selling web pages, FTP space, web server consultant services, advertising, news services. Chapter 4 is excellent coverage on how to select and set up the NT server with experienced, sound advice and attention to all the details like hardware and memory requirements, Internet connectivity bandwidth, backups, power protection, and even temperature issues.

Part II is an excellent compilation of the nitty-gritty and ins and outs of specific server software packages, including point-by-point comparisons on installation, administration, operations and troubleshooting for Microsoft's ***Internet Information Server*** (IIS), O'Reilly's ***WebSite***, Process Corp.'s ***Purveyor***, and Quarterdeck's ***WebServer*** (unfortunately ***Netscape*** was not included, and we have no idea why). Part III covers scripting, forms, and CGI techniques. Part IV has more coverage on server maintenance, such as setting up a BBS, security models and firewalls, crime prevention, viruses, etc. The Intranet-specific angle (which would cover how companies can maximize internal use of the server) is minimal.

The CD ROM includes demo copies of Purveyor (v1.2), "the first Web server for Windows NT" by Process Communications, and WebSite, the popular O'Reilly web server software (v1.1). PaintShop Pro, LView Pro, and a large stack of clipart are also included.

Finally! Our prayers have been answered with this book: we have not seen a better overview of the competing web servers on the market in any other web book so far, and this information is so valuable to implementers that we suspect even Unix web administrators might benefit from Bankston's meticulous comparison of the different products (assuming the functionality and performance will be somewhat similar across platforms for each server). This is the priceless comparison data you can't get by talking to individual companies alone, who only promote their own server.

(Note that Coriolis publishers have another similar title out called ***Serving the Web*** by Robert Jon Mudry that's roughly equal in quality and covers Windows.) ◆



http://www.cyberproducts.com

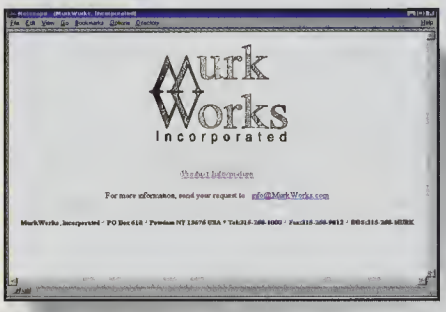
Cyber Products: Instant Guest Book and Q&A Forum. No complicated CGI programming. Free 14 day trial. Just fill out the on-line registration form and add the link to your web page.

http://www.planetc.com

Planet Systems, Inc: Satellite Distribution of Information Products for Online Services, Skylink, Planet Connect, and Planet Connect TV. Includes UPI News and Pictures, Stock Market and Financial Data, Accu-Weather.

http://www.o-m-n-i.com

O-M-N-I Internet/BBS Software for Windows chosen as "Best New Product" at Intermedia/ Internet Asia '96 show with new advanced Web and BBS technology



http://www.murkworks.com

MurkWorks, Inc Developers of BBSNet, IPDoor, and WorldSock. Powerful Internet access add-ons for most popular BBSs. Provide ANSI & RIP 'net clients, SLIP & PPP and painless Winsock access.

http://www.cyclades.com

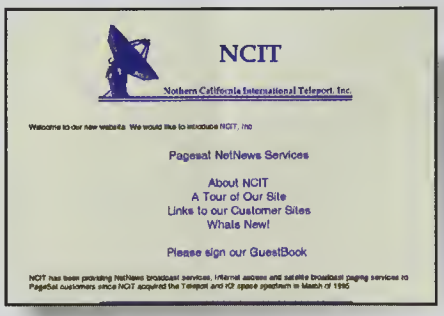
Cyclades Corporation Designs, develops and markets high performance connectiviy products such as multiport serial cards. Operating system supoorted: BSD/OS, Windows NT, Linux, SLO, Free BSD and many more.

http://www.visone.com

Visone Corvette, USA: Your source for Corvette Sales, Financing and Leasing. Learn about Vettes, check our inventory, get online credit approval, request a FREE catalog, and take a fun quiz.

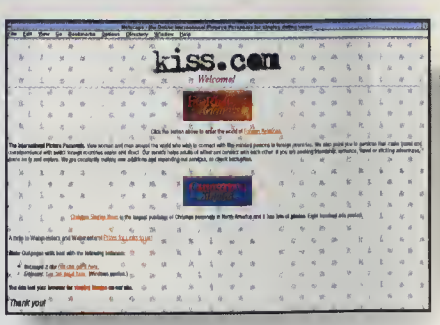
http://www.intercom.com

Intercom Online's Wall Street Web Farm puts your dedicated server on our hi speed (10 Mb) Internet connection. While your office may be in the boonies, your web server can be on the backbone for less than the cost of a T-1! Also, T-1, ISDN in NYC



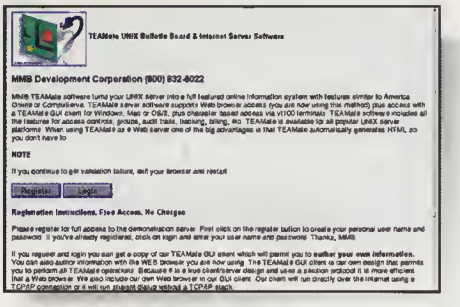
http://www.ncit.net

Northern California International Teleport: Providers of Internet Access, Fidonet, E-Mail, high speed (115KBPS) satellite delivered NetNews and broadcast paging services to PageSat customers.



http://www.kiss.com

An Online International Picture Personals: Thousands of BEAUTIFUL and educated women from around the world wish to meet Americans for romance, friendship and marriage. 1,000 new photo ads each month



http://mmb.com

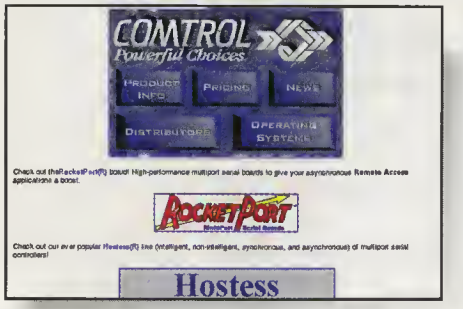
MMB Development: Developer of MMB TEAMate UNIX WEB BBS. TEAMate software now includes an integral WWW browser allowing you to mix HTML and other data within your TEAMate Bulletin Board.

http://38.244.81.1/ofs.htm

Online Financial Services: Credit Card Processing for ISP's and BBSes, No Merchant Account Needed! No Application Fee, Low Rates, One Week Turnaround on your Money. OFS Approved software available for all BBS Platforms.

http://www.esoft.com

eSoft, Inc: We got our start 14 years ago with TBBS. Now the The Internet Protocol Adapter, or IPAD, is our primary product. The IPAD lets you build a full-function Internet presence without specialized expertise.



http://www.comtrol.com

COMTROL: A worldwide supplier of connectivity products including RocketPort and Hostess controllers for ISA and MicroChannel compatible microcomputers. Developer toolkits are also available for integration into Windows, DOS, and UNIX applications.

http://www.rne.com

Rusty and Edie's BBS: Everything in one place!! Windows file conferences. 75+gigs. We post over 200 megs of shareware and hot graphics each week! Dialup - 330-720-2620/Telnet - RNE.com

http://www.logicom.com

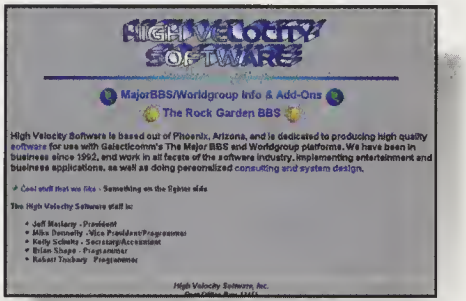
Logicom, Inc: Your Worldgroup Source and Galacticomm's largest Ambassador Reseller. Check our site for information on the Total Internet Turnkey System, that combines a Web Server, Independent Online Service, Internet Server, and Fax Broadcast Server all in one.

http://www.marketplaza.com

Market Plaza: We specialize in state-of-art web development and innovative on-line shopping including Mail Order Wizard, Tracy Otsuka, Bridge Kitchenware, Ever's Toy Store, and Cats, Cats & More Cats

http://www.gcomm.com

Galacticomm, Inc: Since 1985, our corporate mission has been: "To do really cool things in the field of computerized communications and make a buck at it." When you see what we've packed into Worldgroup, we think you'll agree. Download Worldgroup Client software from our site.



http://www.hvs.com

High Velocity Software: Dedicated to producing high quality software for use with Galacticomm's The Major BBS and Worldgroup platforms. Just give us a call and tell us what you are looking for. We provide everything from basic system design to custom applications.

http://www.mustang.com

Mustang Software, Inc: Producer of QmodemPro, the first communication package that delivers all the features and performance to get the most from the new Windows platform. It offers communication and Internet capabilities beyond the standard terminal software.

http://www.hayes.com

Hayes Microcomputer Products, Inc: Developer and manufacturer of PC, Macintosh, and PCMCIA modems, communications software for PCs, Windows, Macintosh computers, and high-speed serial ports to protect and enhance data transmissions.

http://www.dsafe.com

DataSafe Publications, Inc: Efforts to customize THe GaRBaGe DuMP, our own 135-line nationwide BBS, lead us into becoming a software vendor and Ambassador dealer for The Major BBS and Worldgroup. We write our software and thoroughly test it all on our live system.

http://www.absbank.com

American Banking Systems: The first company ever to introduce software and services to accept check payments online, ABS is now the leader in online financial transaction processing. We feature Online Checks Direct, Credit Card Pay and our brand new Web Pay suite.

http://www.sourceror.com

Sourceror: The mythic medieval Tele-Arena bbs role-playing adventure comes to the Web in a graphic version. Quest for power with sourcerers, warriors, healers, and ogres in a 4,000-room Celtic world.

http://www.excalbbs.com

Excalibur is the original Windows Based BBS and now has full internet connectivity. All it takes is a simple internet connection and you can wire your BBS to the world. See why Windows Magazine named Excalibur BBS to its 1995 Win 100.

http://nmol.com

ProDesign: Specializing in professional business applications and custom software development for the Worldgroup and Major BBS platforms.

http://www.livingston.com

Livingston: Over 1,500 Internet Service Providers rely on Livingston products to connect millions of people to the Internet.

http://www2.connectnet.com /~jmd/index.html

JMD Computer Merchandise: Java Is Hot! We offer great Java logo mechandise. Connect to our website to order Java T-Shirt, Baseball Cap, Coffee Mug as well as many other items. Check us out!

http://www.fia.net

First Internet Franchise Corp: Fast growing turnkey ISP franchise includes training, expanded profit center, integrated billing software, professional marketing materials, Intranet products, and Wildcat! Superstore. For new or existing ISP's!

http://www.gtek.com

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Big Time Promotions. 70
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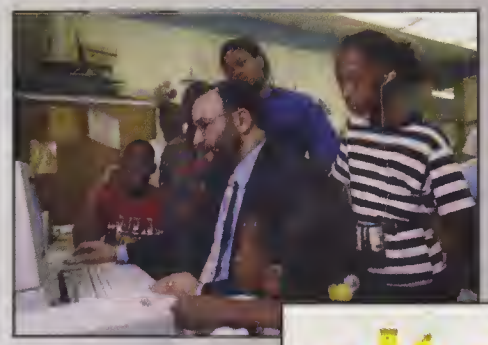

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All signs point

Whether you're in the business of connecting consumers to the Internet, or just getting your company online, wouldn't you prefer a solution that doesn't chip away at your free time? The Internet Protocol Adapter (IPAD) from eSoft is, simply stated, the easiest way to establish a full-featured Internet presence. (And as a bonus, you can discover there's more to life than babysitting an Internet site.)

The IPAD includes these features and much more:

- Multiple interface router (any combination of V.35, EIA 530, Ethernet, Token Ring, or RS-232, to support dial-up, leased lines, ISDN, and LANs).
- Terminal server with full access control, fast PPP/SLIP, and PAP extensions for full compatibility with Microsoft Windows 95.
- Full DNS services (primary and secondary).
- E-mail servers (SMTP and POP3).
- Integral FTP server with access control.
- Integral multihomed web server.
- Packet filtering for firewall construction.
- Internet access for LAN users.
- Provides gateway to external services.
- Remote maintenance support.
- Remote logging capability.
- Standard multihost aliasing.
- Available in desktop or rackmount configurations.

Once you're online, the IPAD's streamlined approach to configuration allows you to make changes easily. With an IPAD, even those without formal training can confidently build their own success stories. Check-out the solution designed from the ground up to deliver elegant simplicity. Check-out the IPAD.

Winner of the 1995 Dvorak PC Telecommunications Excellence Award.

Interface by eSoft's ipad
http://www.esoft.com

Look for this logo on your Internet service provider's web site. It shows he knows you want the best.

eSoft is your Total Internet Solution provider. One-stop shopping for everything you need to launch a complete Internet presence, including the IPAD, CSU/DSUs, modems, leased line Internet feeds, turnkey web servers, and more. Call (303) 699-6565 to learn why eSoft is the solution for you.

Dvorak's Recipe Book

Drinking Tea, English Style

This may be a bit off base but I know that most coders and programmers and computerists in general drink more coffee than they should. That is, except in England where they commonly drink tea instead. And it's served with milk.

This practice is quite satisfying if you get the right tea. For years and years I've heard the local Brits moan and groan about how you can't get good tea in the USA. I never quite knew what they meant. After all you can get Twinings and Melrose and other important English brands. Years later when spending time at the PC Magazine UK offices I finally realized what they were talking about when I began to drink cup after cup of PG tips, the definitive everyday tea.

In fact there are two everyday teas sold in England that have hordes of followers. PG Tips and Sainsbury's Red Label. Neither of these teas are available in the US. The closest you can get might be a Fortnum and Mason or Melrose English Breakfast tea. But they cost more and aren't as good. In some locales you may find Typhoo which comes a bit closer. If you can get a pure Assam tea, it may also come close although teas such as PG Tips purport to be orange pekoe. A cautionary note: the Twinings sold in the US is packed and blended in the US and is not as good as the real Twinings out of England. It's noticeably weak as are most US blended teas.

PG Tips and Red Label are dirt cheap selling for a couple of dollars for 80 bags or so. To Americans this is an anomaly but the British, when in their colonial heyday, put together foodstuff deals around the world and isolated high quality products for long terms. Sainsburys is a supermarket chain and their connections to high quality products are astonishing. They sell a cheap Chilean Cabernet, for example, that is as good as any mid-range Bordeaux. Munira Brooks at Zyxel Modems turned me on to this wine. A friend of hers told me that the Intercontinental would sell this $8 beauty for upwards of $60 a bottle (with a different label than the grocery store label) with no complaints. This colonial thinking of the British eludes Americans and it's hard to believe that a cheap tea might be the best tea. To the English cheap and inexpensive do not mean the same thing as they do in the USA.

One thing that earmarks these everyday English teas is that the tea bag turns a distinctive reddish color due to the nature of orange pekoe. Curiously Lipton tea is supposed to be made with the same kinds of teas that go into PG Tips and there is little similarity. Other American teas simply do not have access to the teas that the big boys are getting.

The good news is that PG Tips is available in Canada with a slightly different package, a different shaped tea bag. Incidentally, these bags of classic tea never have a little string and label hooked to them which is just so "old lady" it's sickening. Most American teas have adopted this idiotic device which tends to fall into the cup anyway. Sainsburys caused a public debate when it made the bag round a few years ago. Anyway, the PG Tips from Canada as far as I can tell is exactly the same as the stuff from England in every way except there are less bags in the box and no "toy" — a cheap knickknack often thrown in the PG Tips box as a premium.

When making this tea you should use a teapot that you can be certain takes the water to true boiling. The bag has to be hit with boiling water to achieve some sort of tannin release according to British folklore. Then it takes about five minutes before the tea is ready. I leave the bag in for much longer. You then add milk (never cream) and you have a classic English cup of tea.

Let me tell you, this is much nicer than drinking coffee all day.

MUSTANG HITS TARGET WITH NEW WILDCAT! INTERACTIVE NET SERVER

It looks like Mustang Software has hit another home run as they put the finishing touches on their new Wildcat! Interactive Net Server. Recently released, the Interactive Net Server packs more features in one box than any other online server software we've reviewed in the past. It gives system administrators everything they need to create an online community in the wild reaches of cyberspace. We, as BBS operators, understand what many of the corporate and commercial concerns on the Internet do not - you have to give users a sense that they belong on your system or they won't be coming back. Wildcat! gives you the tools to accomplish just that.

Mustang has long been recognized as a leader in the BBS industry, and now they are bringing their expertise in creating online server tools to the Internet. The web server market is crowded with entries from powerful developers like Microsoft and Netscape, but Mustang has an advantage over all the big boys - they've got 10 years of experience developing online platforms, and they know what users want.

Wildcat! Is More Than Just A Web Server

The Wildcat! Interactive Net Server offers more than just a platform to serve HTML documents. Here are just a few of the capabilities that we feel set Wildcat! apart from the competition:

Built-in Commerce Tools

Other web server software may claim to support "secure commerce", but Wildcat! is the only one that gives you tools right out of the box that will let you accept online checks and credit cards for subscriptions. You can almost double your potential market by accepting online checks from the approximately 48% of adults who do not have a credit card. Plus, you have a much better chance of capturing the impulse purchaser by removing as many obstacles as possible.

Security & User Authentication

What's the use of putting up a Web server if you have no way to tell who's surfing your site? With Wildcat! you can require users to log in with a unique name and password, and easily gather demographic information from the customers and prospects who hit your site. And Wildcat!'s user authentication even lets you tailor the information to which they have access on your site. For example, with a single Wildcat! server you could target potential customers with sales information, existing customers with support information, and your own employees with human resources information.

Dial-up Connectivity

Don't limit your potential audience to only those people who are already connected to the Internet. Less than one third of people with a computer and modem currently have access to the Internet. Wildcat! lets users connect directly to your server via dial-up modem without all the hassle of setting up Winsock and other Internet connectivity utilities. All a Windows user needs is the Wildcat! Navigator and a modem and they can connect directly to your system. You can even give them access to browse the WWW via their dial-up connection if your server is linked to the Internet.

Dynamic HTML

Not only can Windows users download the freely distributable Wildcat! Navigator to access your site, but with an update to be dis-

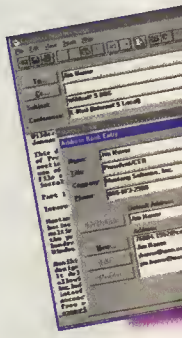
The Fastest, Easiest Way to

INTERACTIVE NET Server

It's all right here: everything the tools to attract Internet

More than just of both worlds:

gives you these exciting tools:



System Security - Built-in user authentication helps you secure your system by governing access to all aspects of system configuration administration.

Security Profiles - Define exactly which features of the system users have access to. You can even target the system interface to different groups of users.

File Areas - Create libraries of files for download. Make it easier for your users to find files and documents by organizing them into areas and groups.

Conference Areas - Build your online community by creating public and private message areas to stimulate discussions.

Online Doors - Configure external applications and popular online interactive games for your users.

Languages - Forge a multi-cultural community with Wildcat!'s built-in support for multiple language interfaces.

CD-ROM - Optimize your system to handle downloadable file libraries on multi-disk CD-ROM changers.

File Management - Add large batches of files with full descriptions to your download libraries with the easy-to-use wcFile wizard.

Questionnaires - Gather information from your users via polls and accumulate marketing and demographic data with simple questionnaires.

HoTMetaL - We include a copy of the award-winning HoTMetaL HTML editor from SoftQuad with every copy of Wildcat!.

Custom Connector - Create a logo-branded custom version of the Wildcat! Navigator to distribute to your customers and prospects.

Event Management - Configure system maintenance events to automatically run in batch mode when the system usage is at its lowest.

wcPay - Increase your profits with Wildcat!'s secure online commerce engine. Accept online checks and credit cards with real-time verification.

wcSubscribe - Make it easy for your users to subscribe to your service with Wildcat!'s built-in subscription agent.

tributed in September or October, then anyone with a web browser will be able to participate in Wildcat!'s threaded message bases, file download libraries and real-time chat. Dynamic HTML (or Active HTML as it's known in some corners) will open the door to Macintosh users and virtually anyone connected to the Internet and let them become part of your community on the 'net.

Server-side Filtering

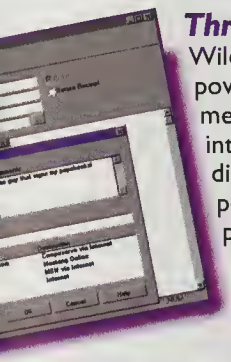
The Internet is a wide open frontier of information and one of the most exciting new technologies that's come along in the past 10 years. But, as with almost any new frontier, you may have some concerns about what information is available to users connecting via your server. With a future release, Mustang has plans to give you the power to block access to specific Internet sites you may deem unsuitable for your audience. You will even be able to limit access to a specific list of addresses. This feature, currently in beta, will be ideal for educators that would like to provide limited Internet access to their students.

As you can see, we were very impressed with Mustang's new offering. It's a package with which you can start a small one-or two-line hobby system or a full-fledged commercial online venture. And it's written by people who've been developing excellent online platforms for years. You can't go wrong with the Wildcat! Interactive Net Server. ◆

Build an Awesome Interactive Web Site!

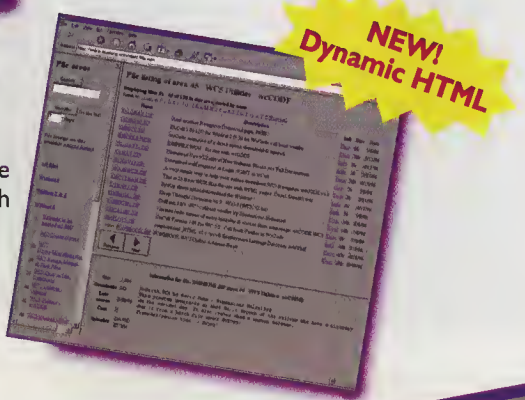
you need to create and maintain the Ultimate Web Community, surfers and the features to keep them coming back for more!

a web site, Wildcat! Interactive Net Server allows you to have the best a dial-up solution as well as world-wide access from the Internet.



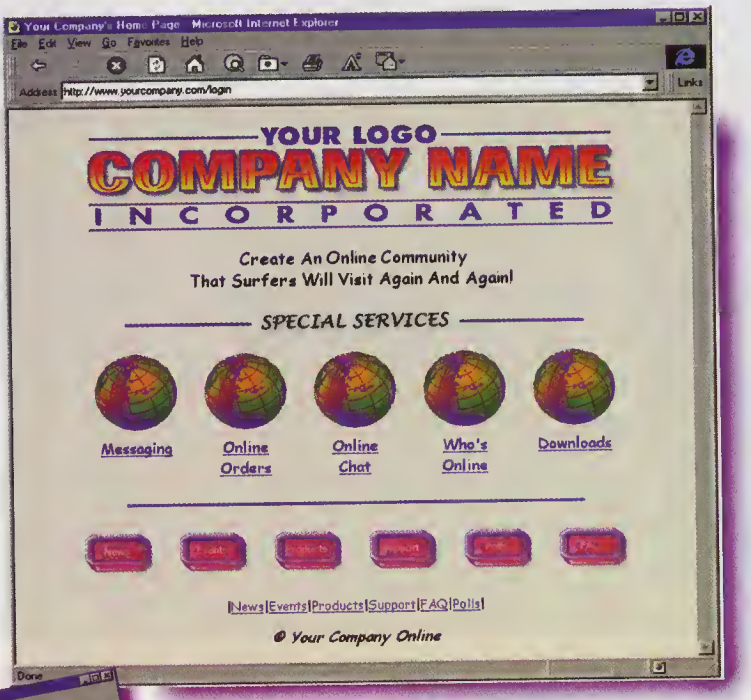
Threaded Messaging!

Wildcat! gives the system administrator the power to create an unlimited number of message forums to encourage online interaction between users. Messages are displayed as threaded conversations and personal messages are conveniently presented to users via an "Inbox".



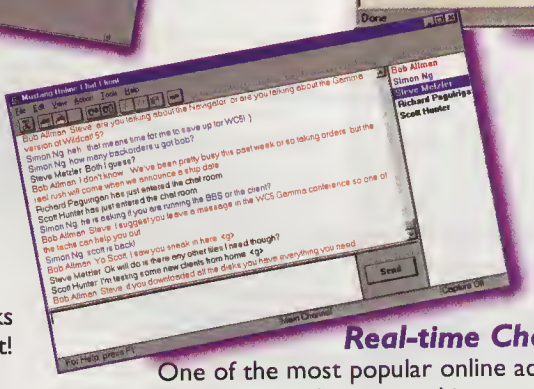
Online File Libraries!

Retrieve files quickly with the powerful search engine (viewed in Dynamic HTML.)



Secure Online Commerce!

Boost your bottom line by accepting online checks and credit cards. Wildcat! includes a subscription module that's ready to run out of the box, so you can start making money today!



Real-time Chat!

One of the most popular online activities is interactive chat. Users can whisper private messages to other users, use dynamic action words to add pizzazz to their conversations, and even create their own private channels.

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